

Sustainable development of housing, renovation of multi – apartment dwelling buildings, quality of living environment

Interreg V-A Latvia – Lithuania Programme

2014 – 2020

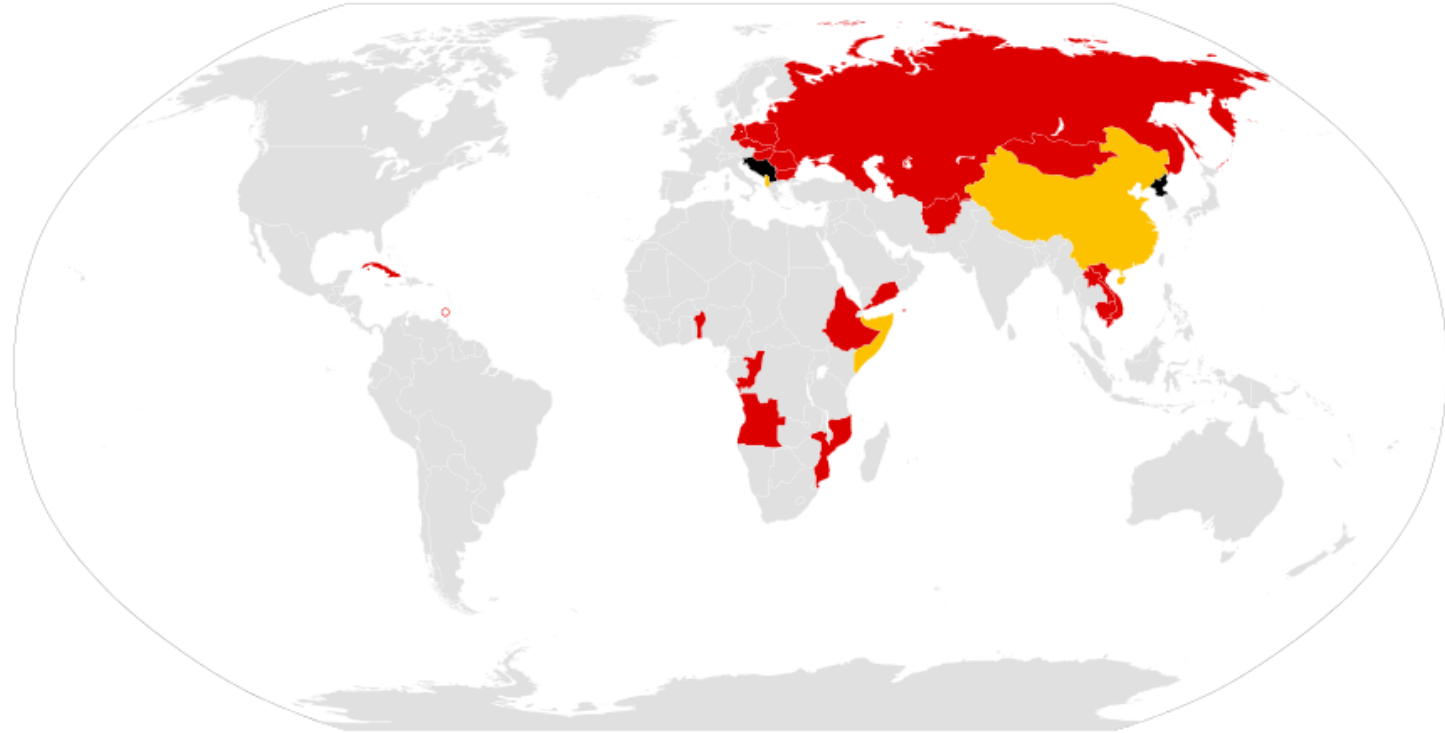
LLI – 303, Life in Clean Environment – a Better Future !

Acronym “Clean Brownfields”

21.01.2020

Aleksandrs Fel̃tins

1. GENERIC CONDITIONS

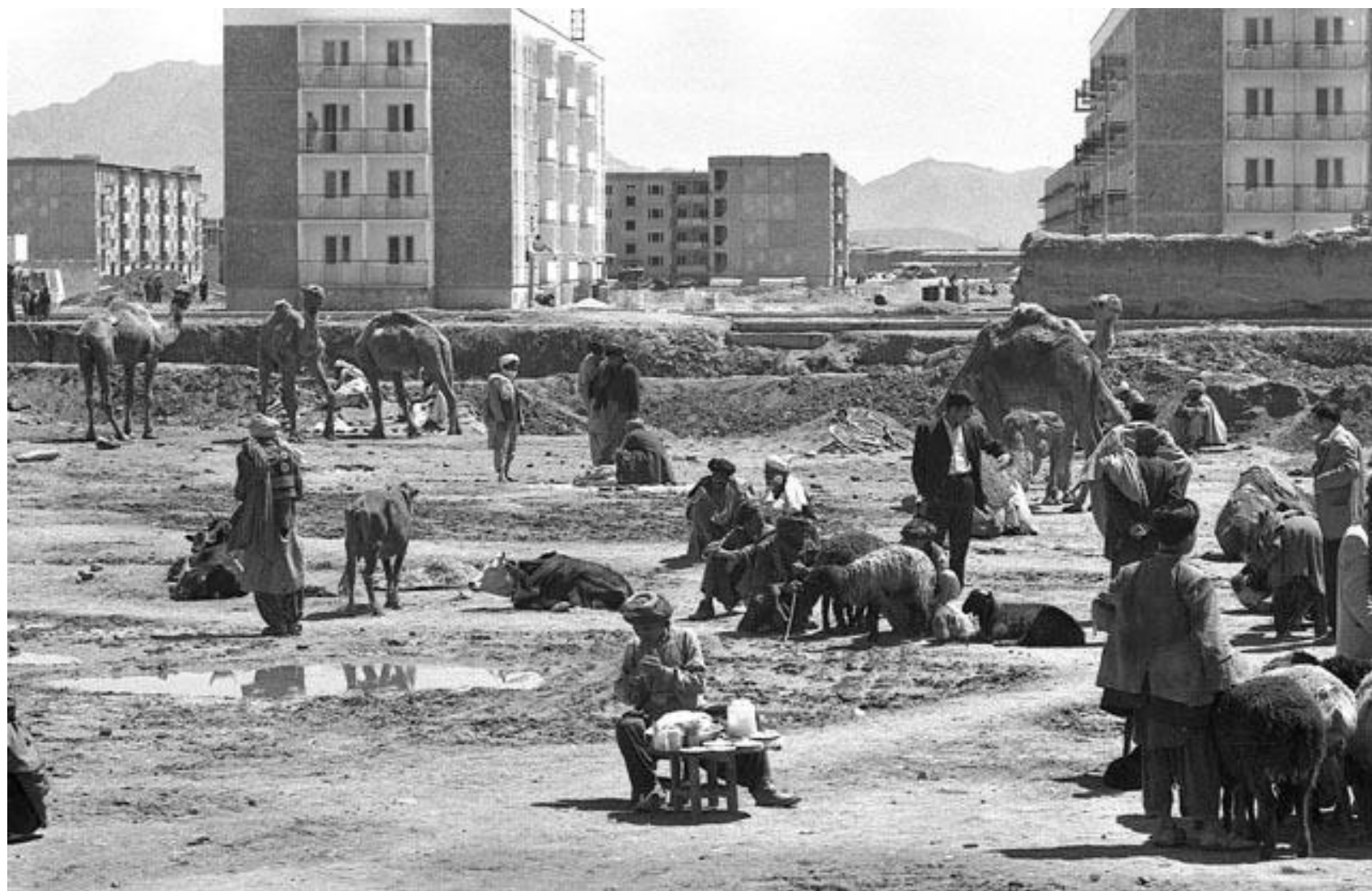


50 MILLION UNITS

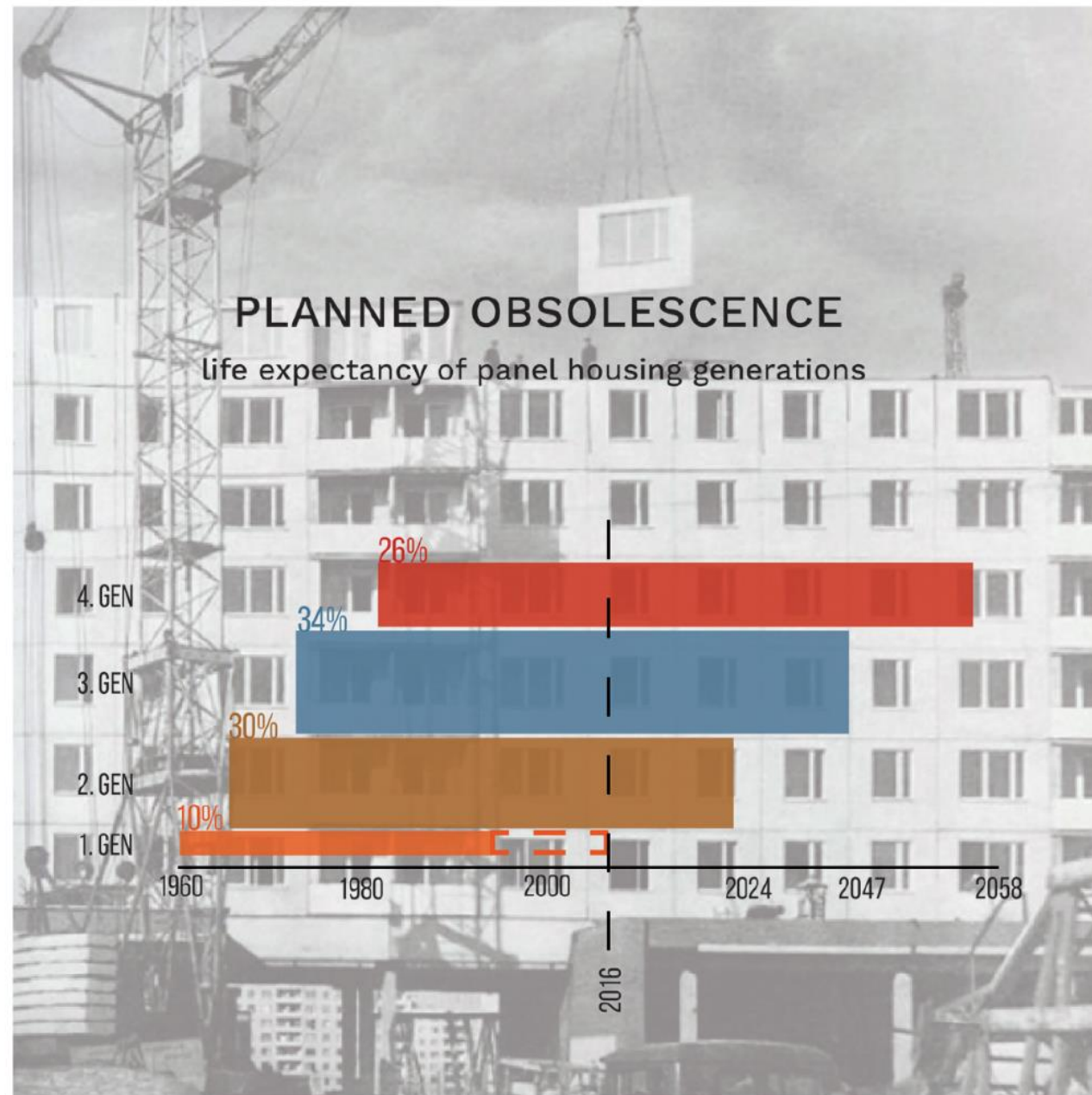
1955-1985

THE GREAT SOVIET EXPERIMENT: STANDARD CITY AND AFTER
ALEXANDER SVERDLOV





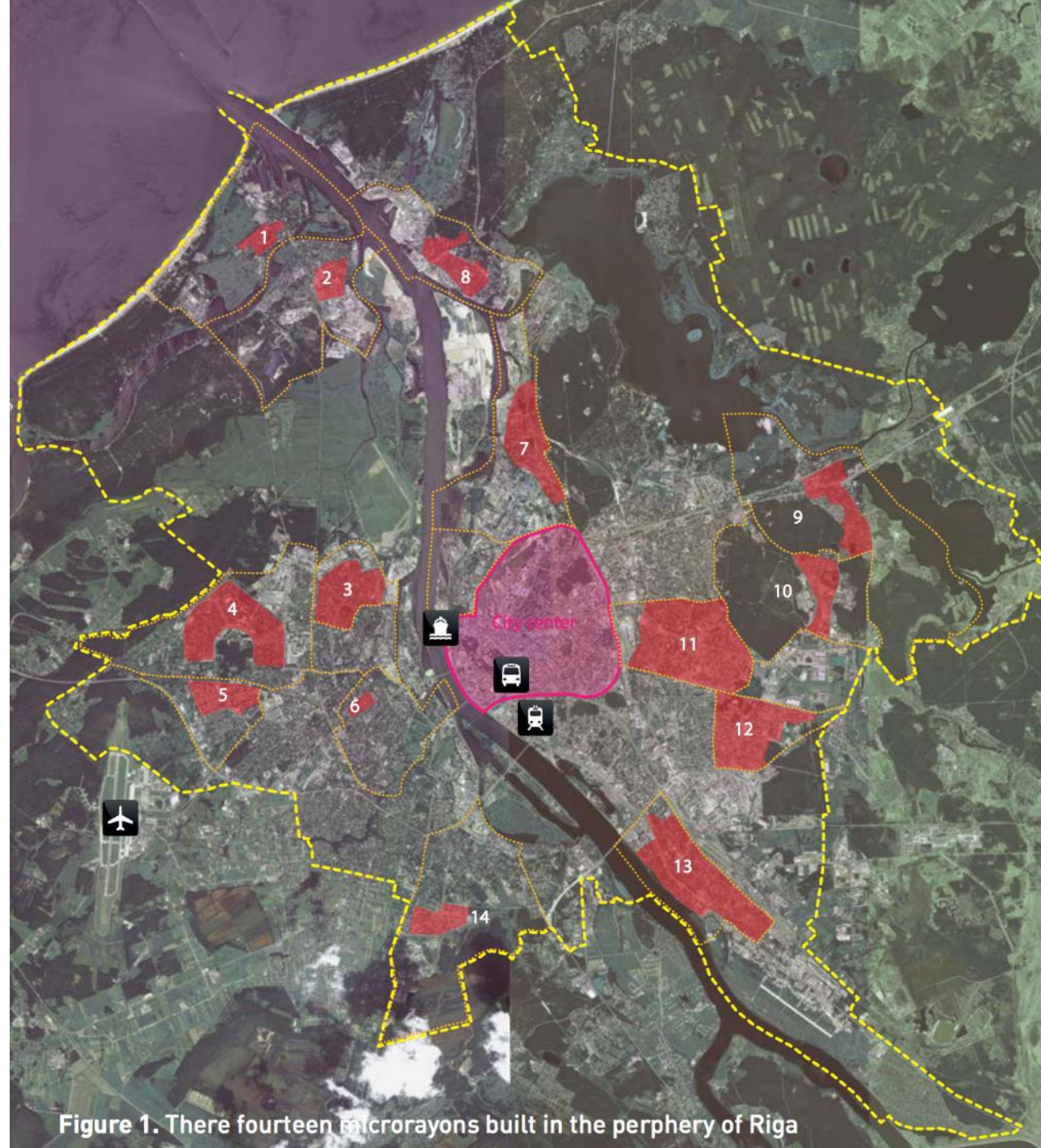
1c. PLANNED OBSOLESCENCE



Percentage of different generations built throughout ussr in overall number of units

Data from Microrayon factbook - Prefab Periods

1d. NON-STIGMATIZED



1e. POTENTIAL OF COMMON/PUBLIC SPACE



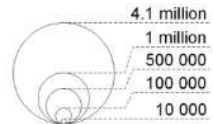




2. SPECIFIC CONDITIONS

2a. (DE)- POPULATION DYNAMICS

City population at the end of 2006:

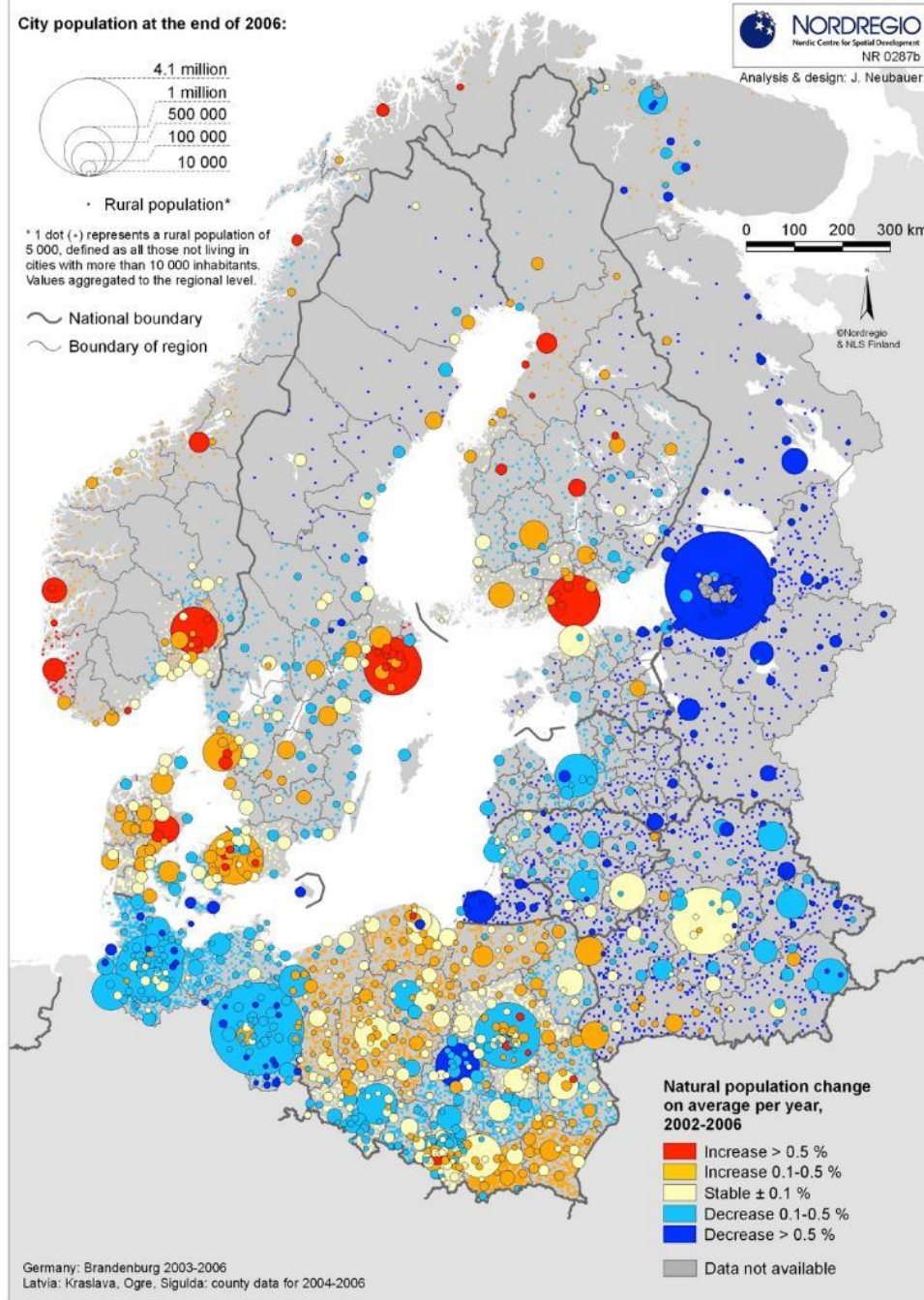


• Rural population*

* 1 dot (•) represents a rural population of 5 000, defined as all those not living in cities with more than 10 000 inhabitants. Values aggregated to the regional level.

— National boundary
— Boundary of region

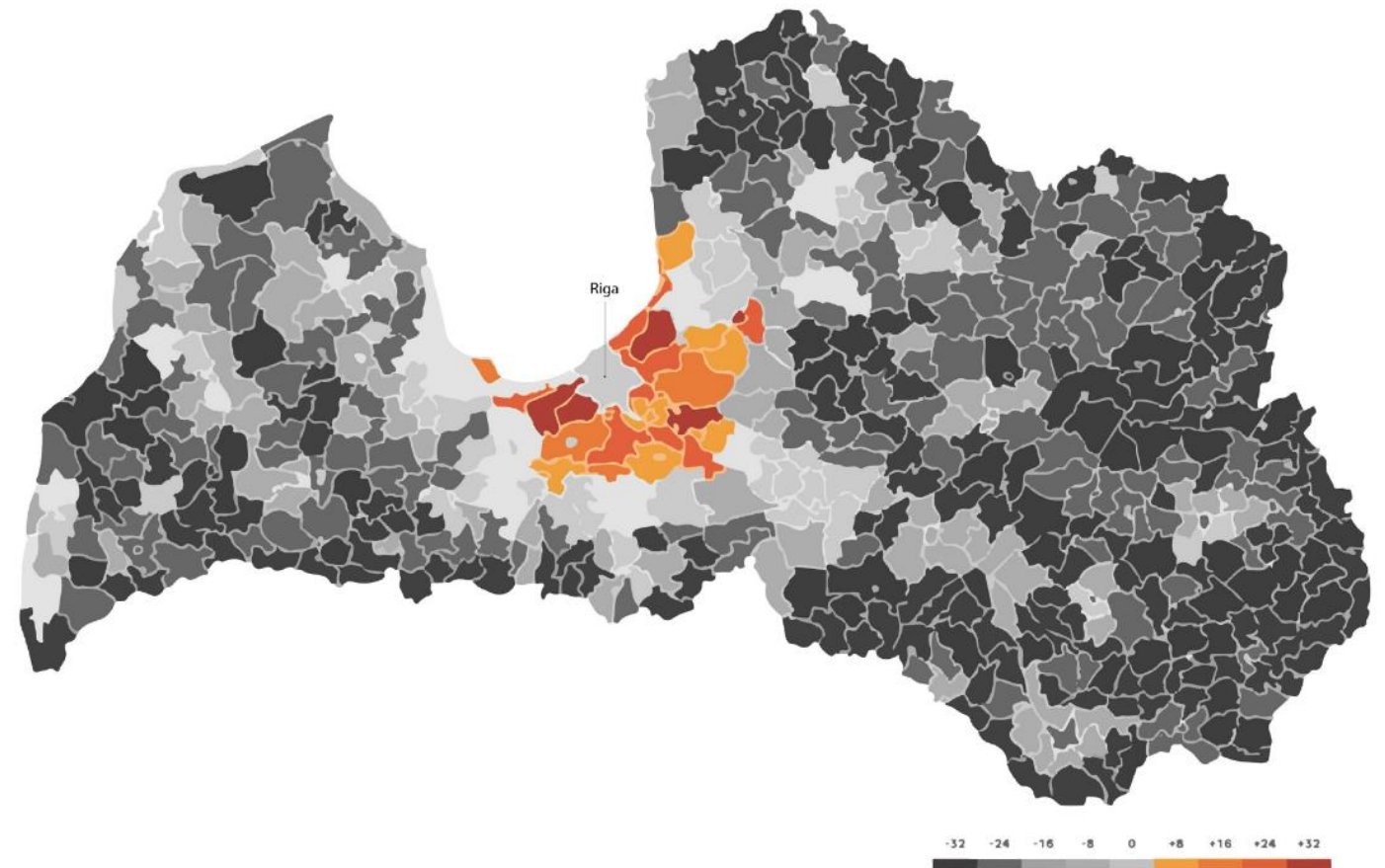
0 100 200 300 km



Germany: Brandenburg 2003-2006

Latvia: Kraslava, Ogre, Sigulda: county data for 2004-2006

Current
Condition
Sprawl &
Depopulation



2b. URBAN SPRAWL DYNAMICS

Development of Sprawl

“Even though
during the past
two decades
Riga experienced
a decline in
population,
the number of
inhabitants in
the suburbs has
increased”

Romante Valiulyte,
Urban Transformation of Riga's Microrayons

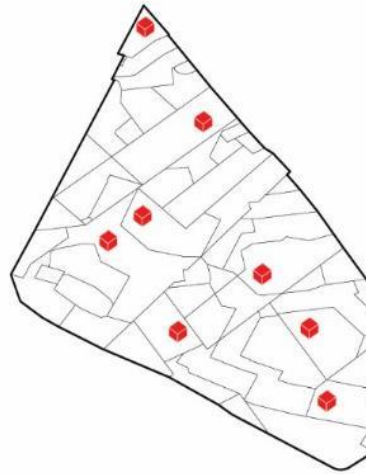


Societal Changes in Riga - Shrinking & Sprawling

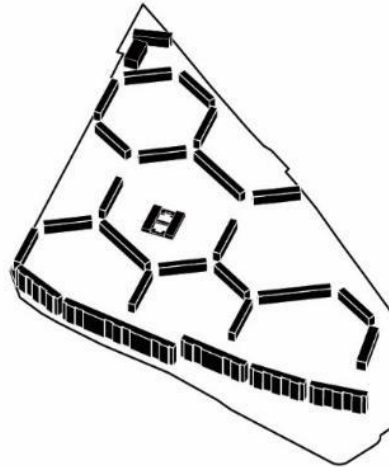
2c. SOVIET vs POST-SOVIET OWNERSHIP

THE CONDITION

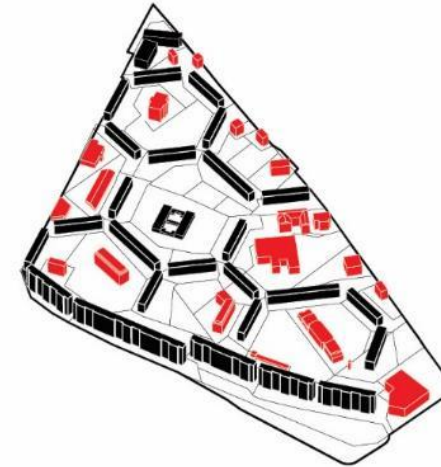
The reason - a complicated history of ownership



Pre-Soviet ownership condition



Soviet ownership condition



Post-Soviet ownership condition



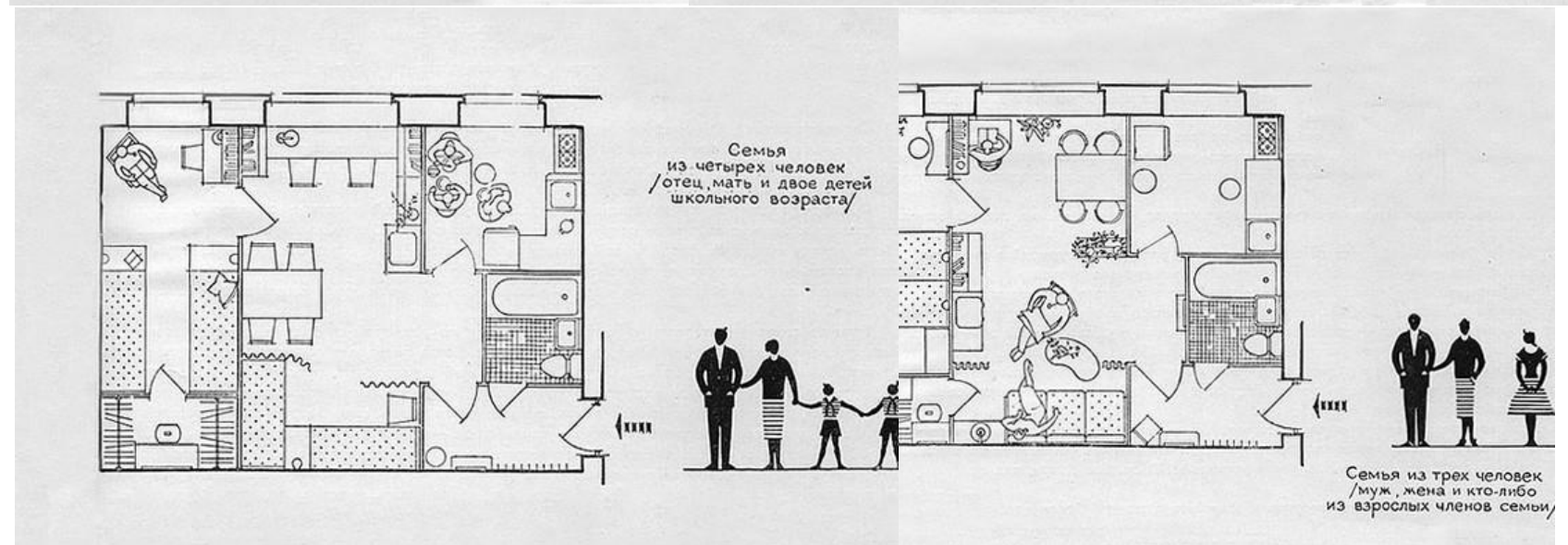
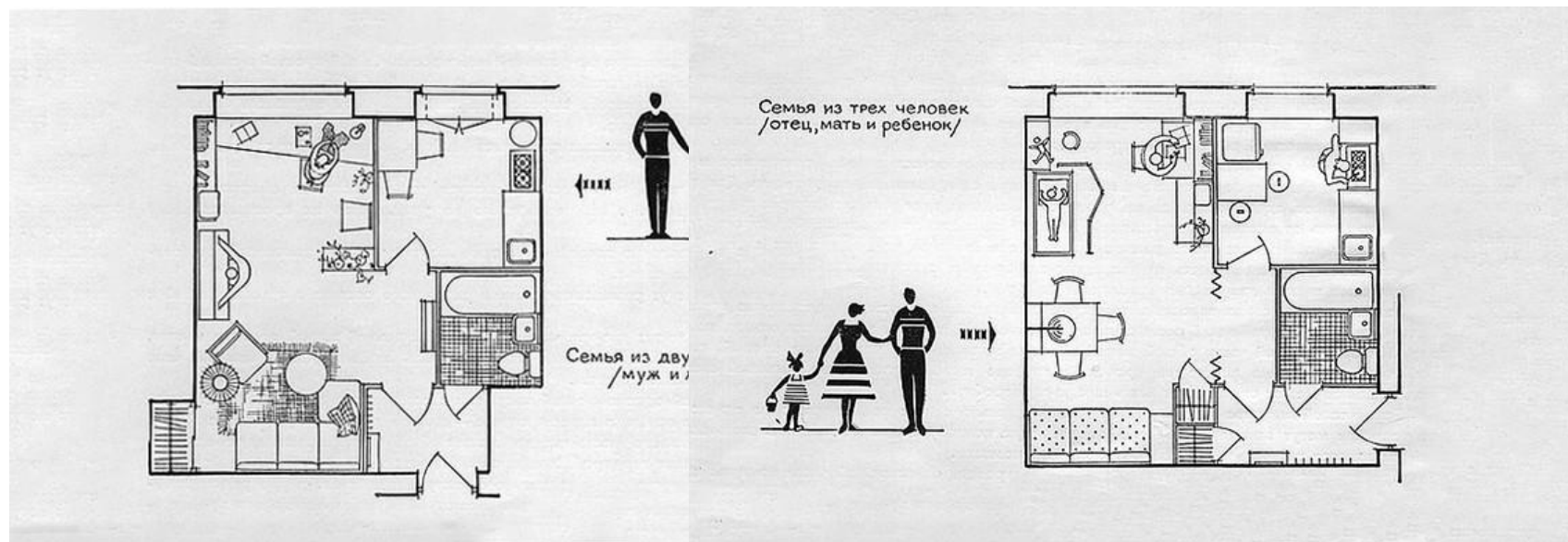
Pre-Soviet ownership boundaries reinstated over mass-produced housing.
Model presented as part of The Baltic Pavilion, 15th International Architecture Exhibition - La Biennale Di Venezia 2016

2d. SUSPICION OF THE COLLECTIVE/COMMONS

**2e. COMPLEX
ETHNIC/LINGUIS
TIC
GEOGRAPHIES**

2f.
DEVELOPMENT
PRESSURES
(EG. PARKING)

2g.
TRANSFORMED
HOUSING
DESIRES



ПРИМЕРЫ ПОДБОРА ОБОЕВ



Цвета обоев, рекомендуемые для комнат с хорошей освещенностью: светлые — для северных районов страны; более темные (насыщенные) — для южных районов.



Обои для столовой.



Обои для кабинета.

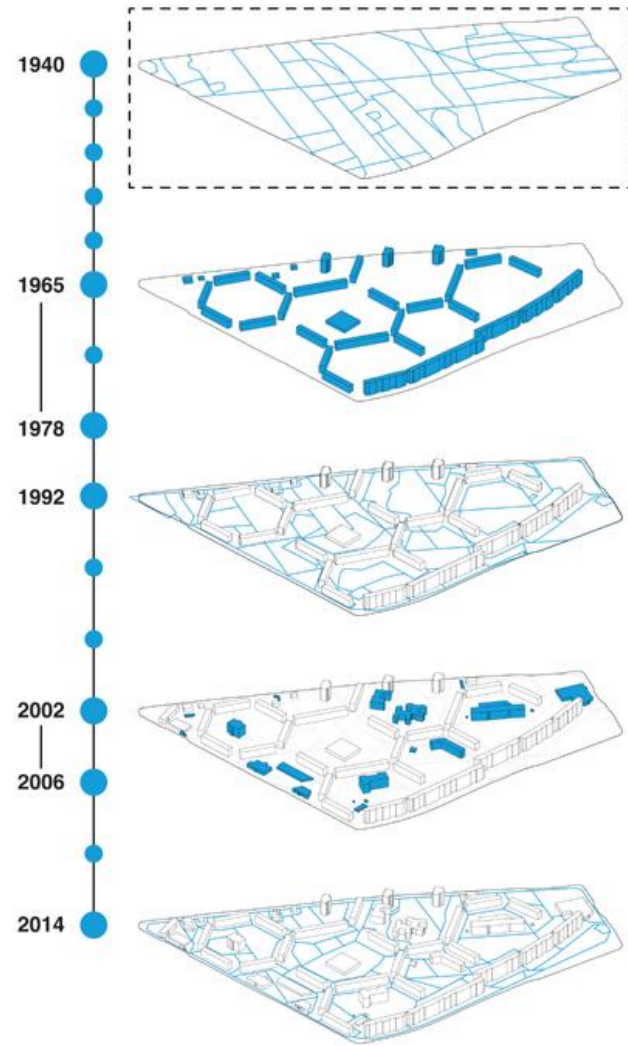
Обои для спальни и детской. В центре — только для спальни.



Цвета обоев, рекомендуемые для комнат с недостаточной освещенностью: светлые — для северных районов страны; более темные (насыщенные) — для южных районов.

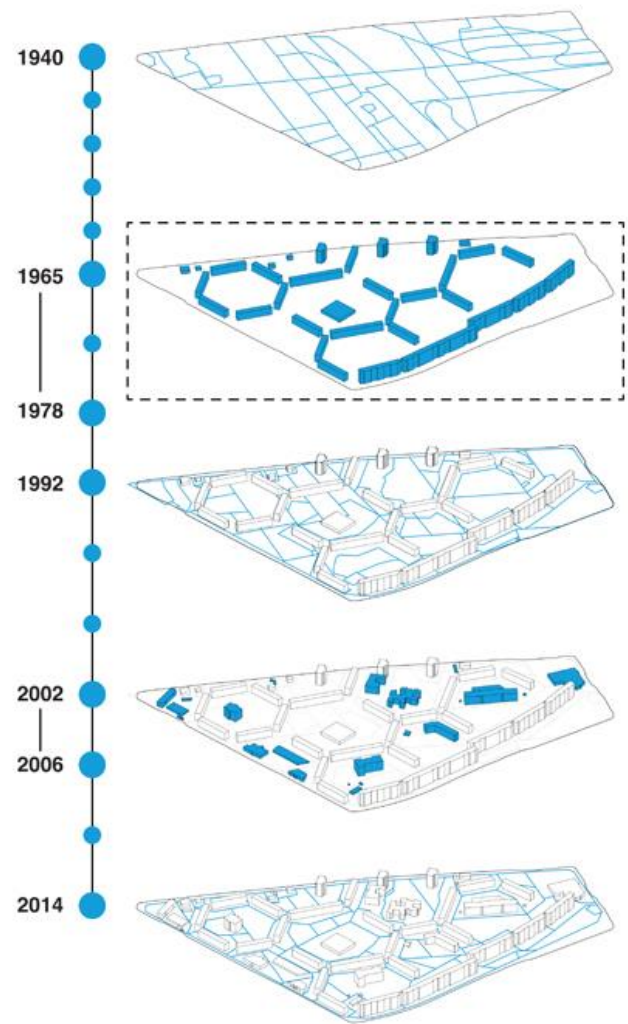
К ст. Обои.



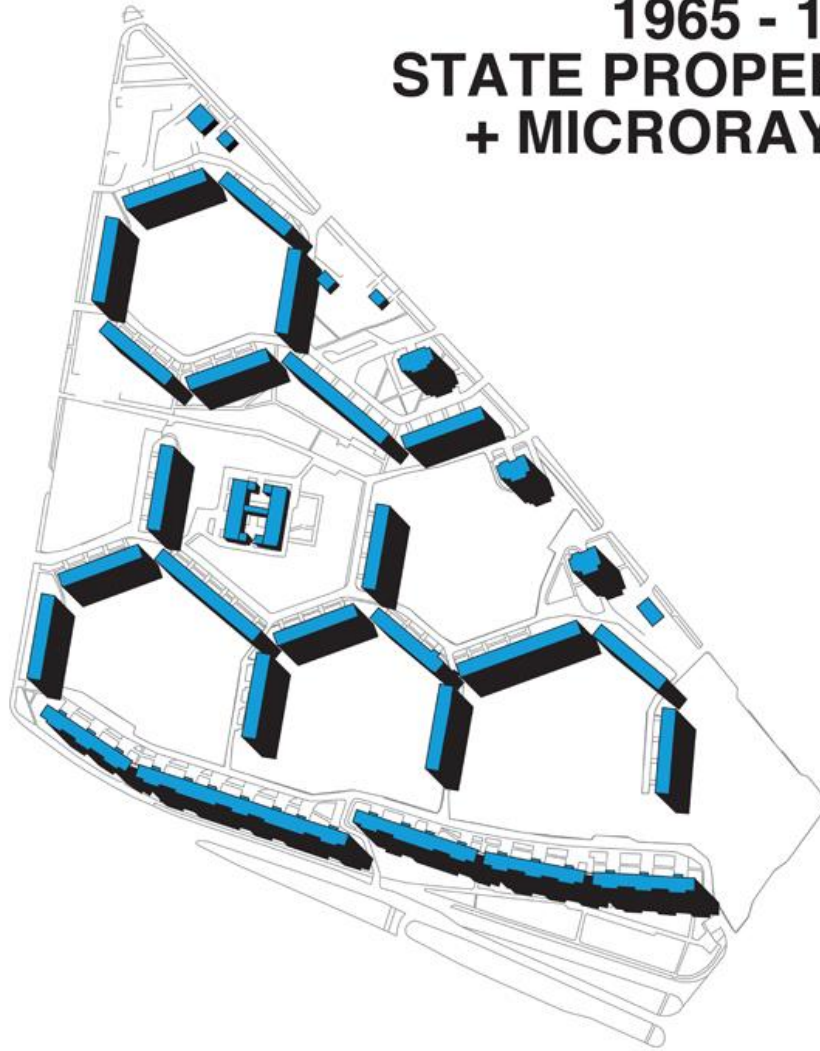


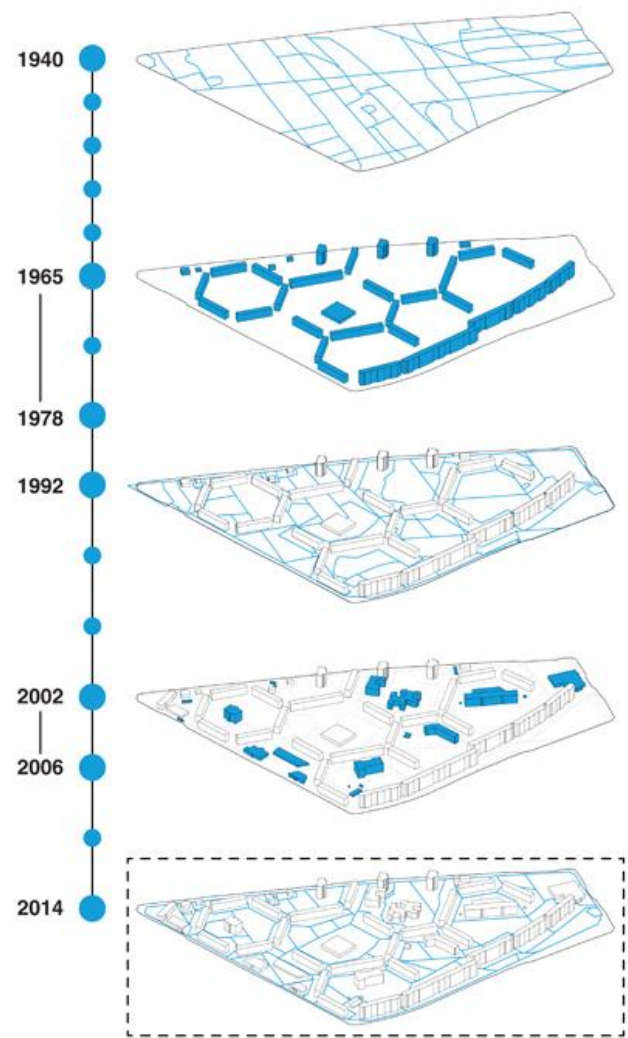
1940 LAND PROPERTY





1965 - 1978 STATE PROPERTY + MICRORAYON



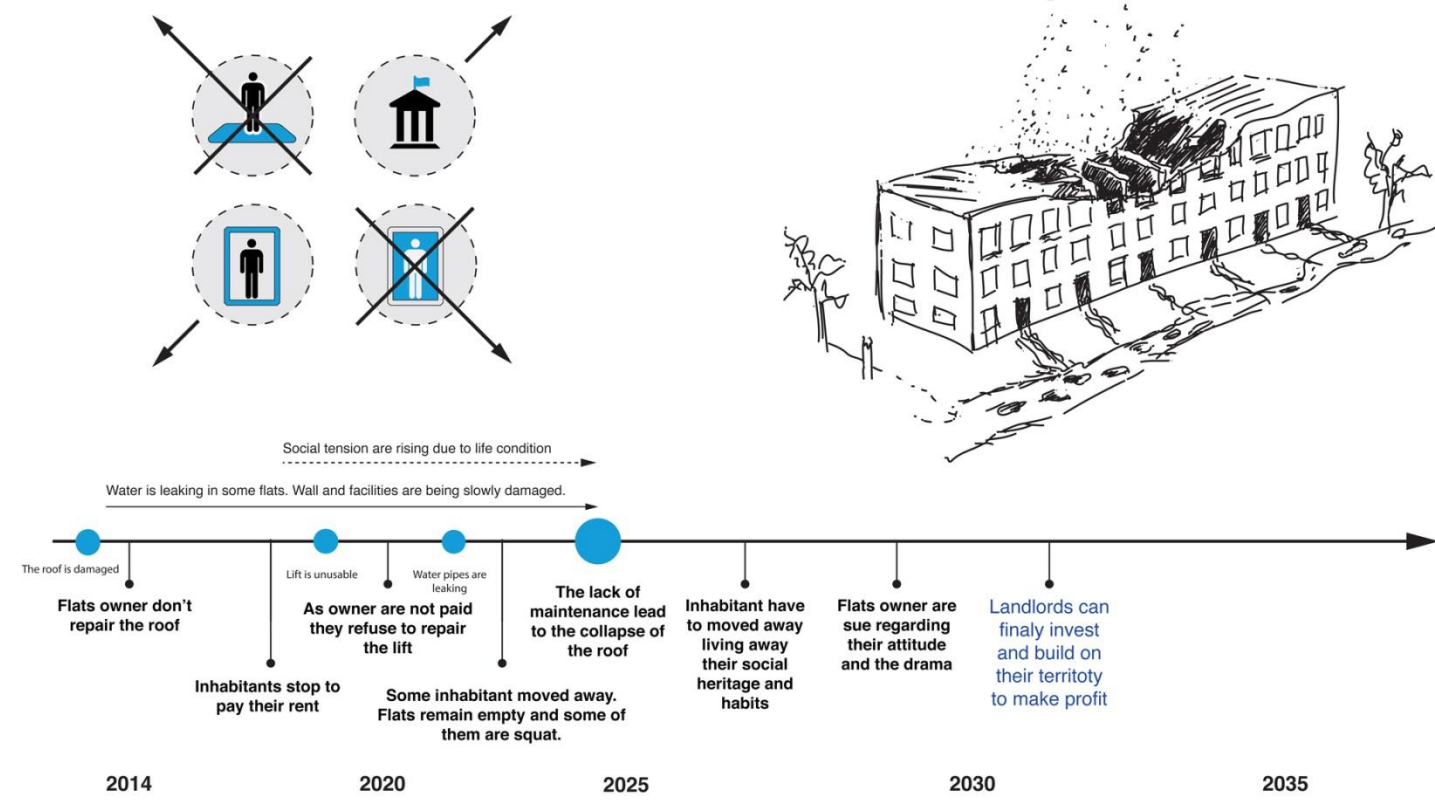
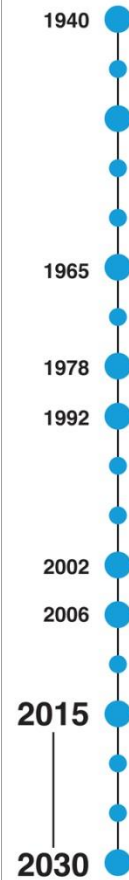


2014 MUNICIPALITY PROPOSITION



POSSIBLE SCENERY 1

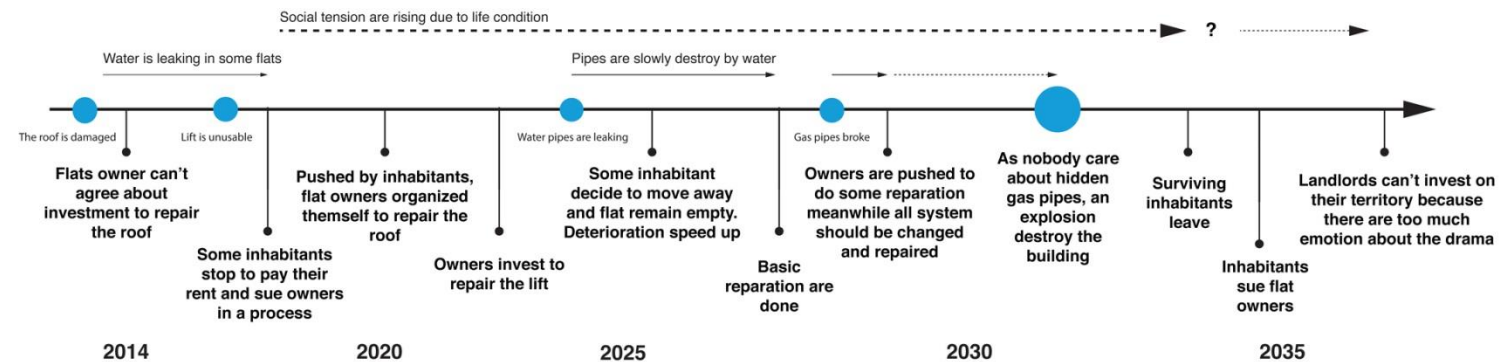
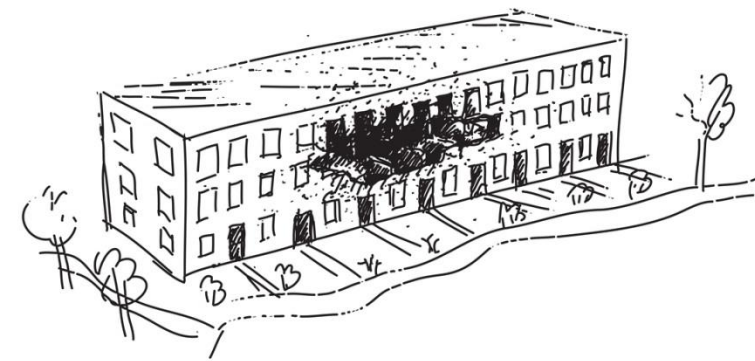
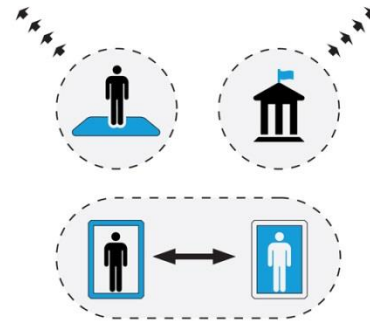
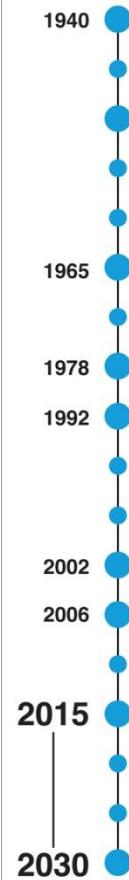
No Investment State Control



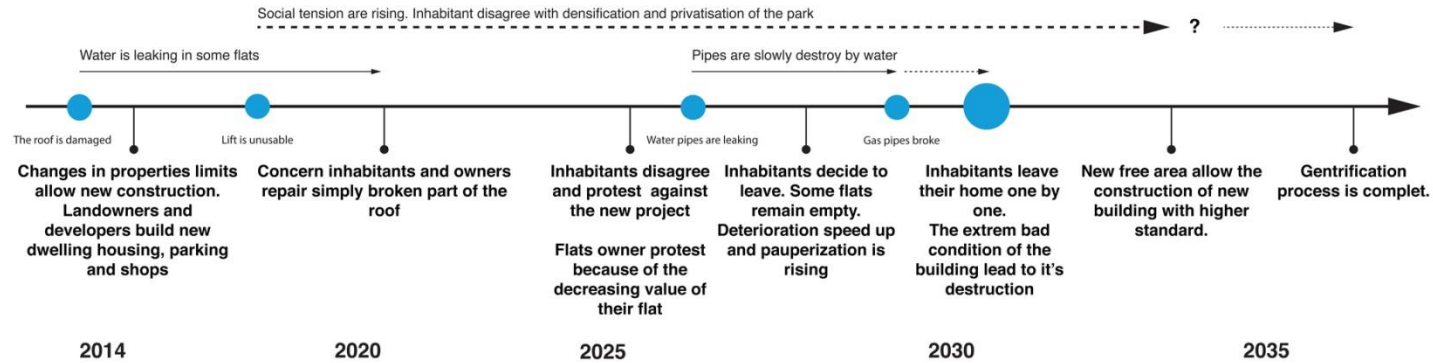
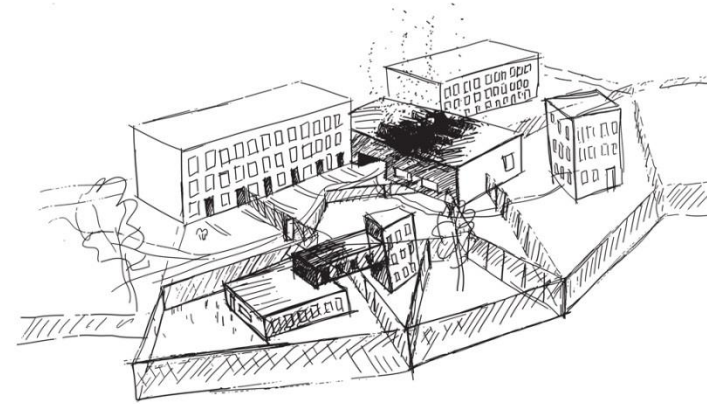
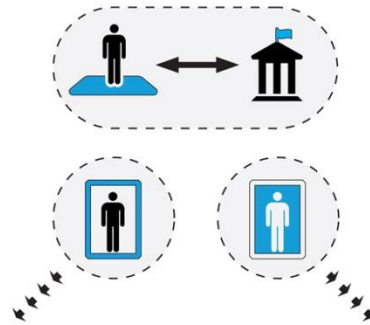
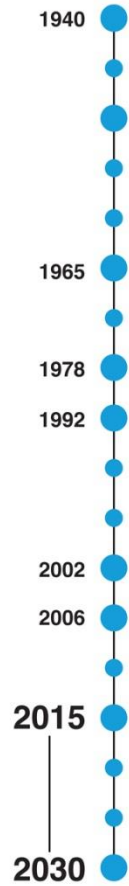
POSSIBLE SCENERY 2

Minimum Investment

Land owners + Tenants



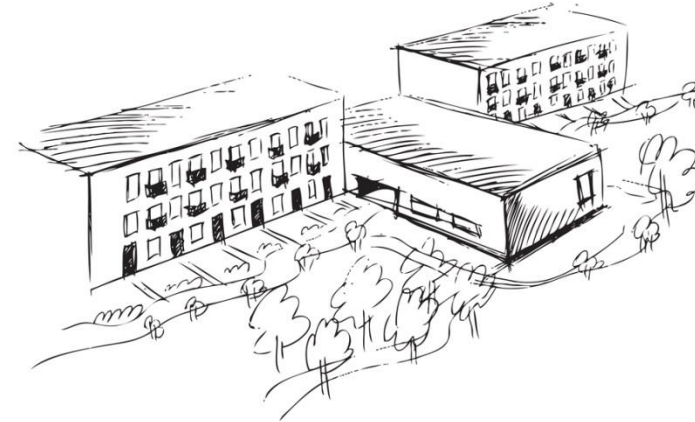
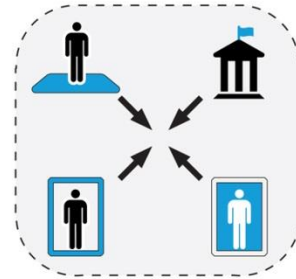
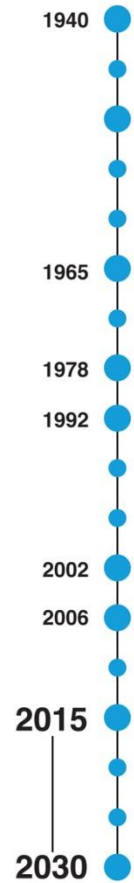
POSSIBLE SCENERY 3 High Investment Land owners + Deregulation



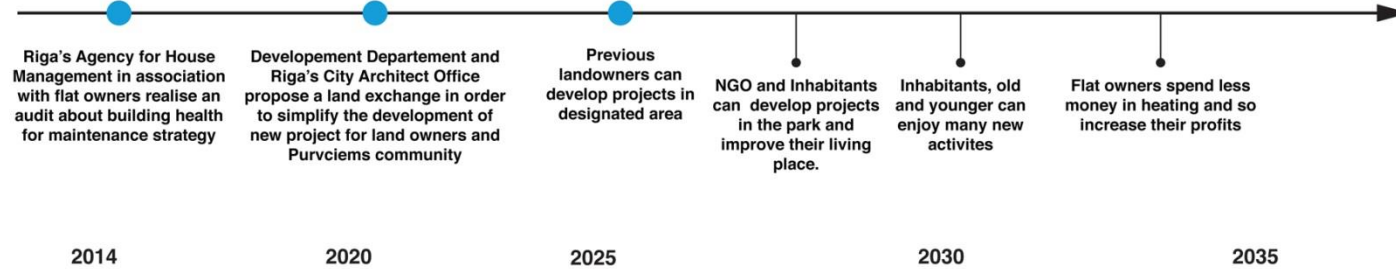
POSSIBLE SCENERY 4

Mix Investment

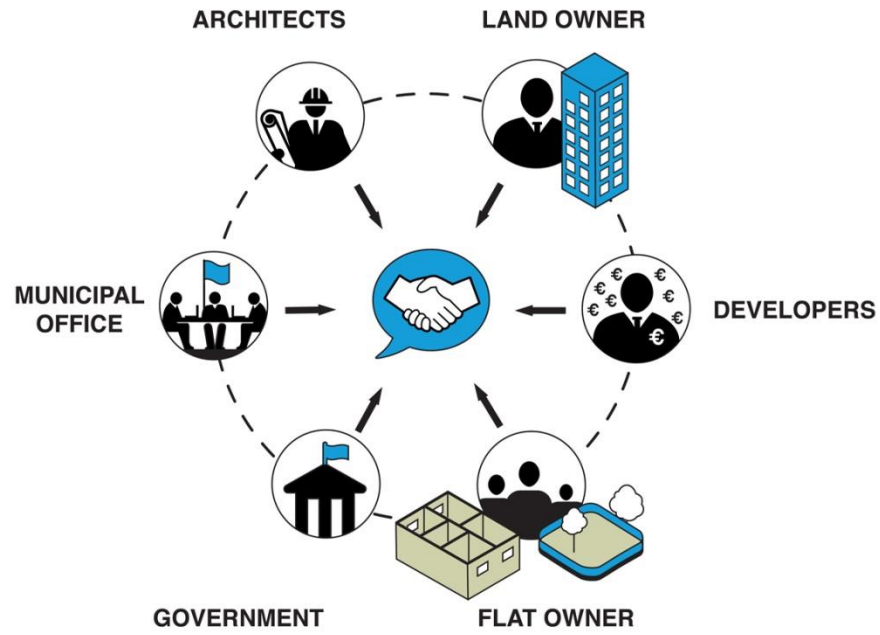
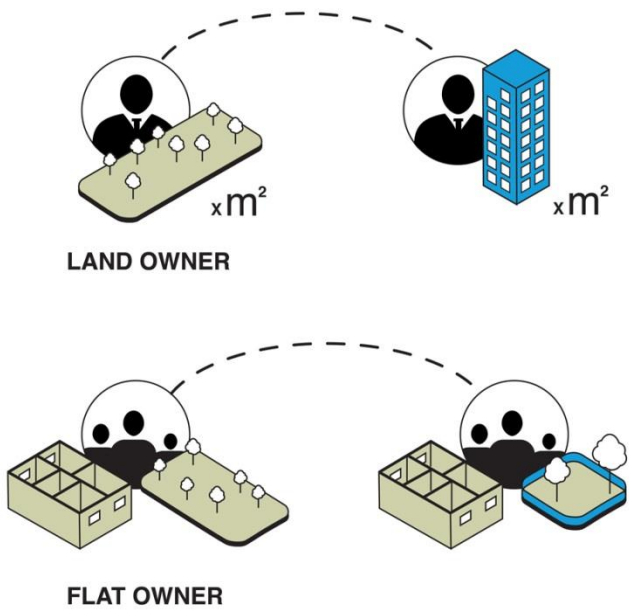
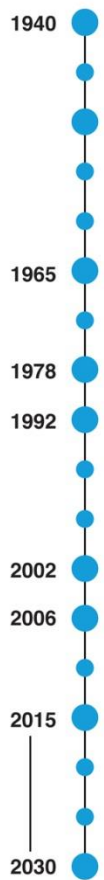
Land owners + Flat Owners + State



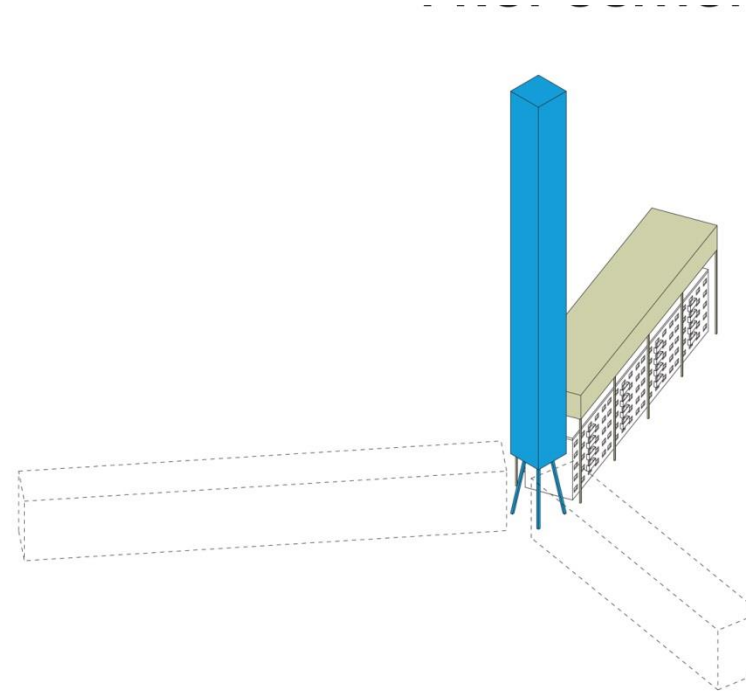
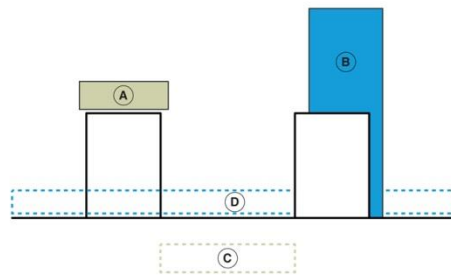
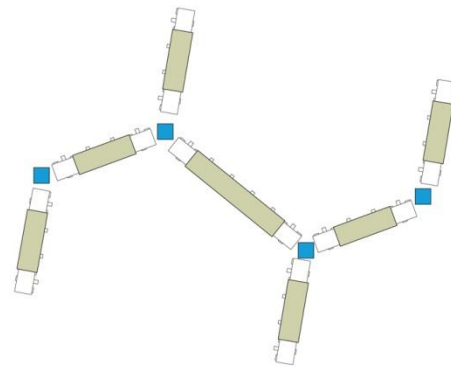
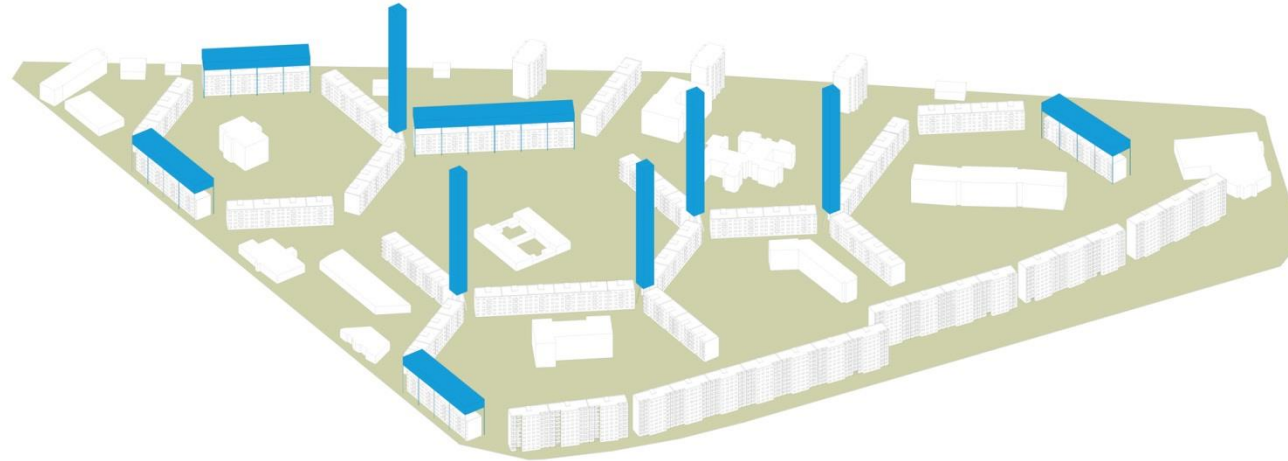
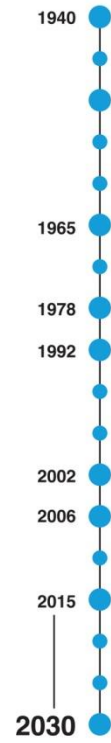
Riga's Agency for House Management in association with flat owners realise an audit about building health for maintenance strategy



2015 - 2030 PROPOSITION



2015 - 2030 PROPOSITION



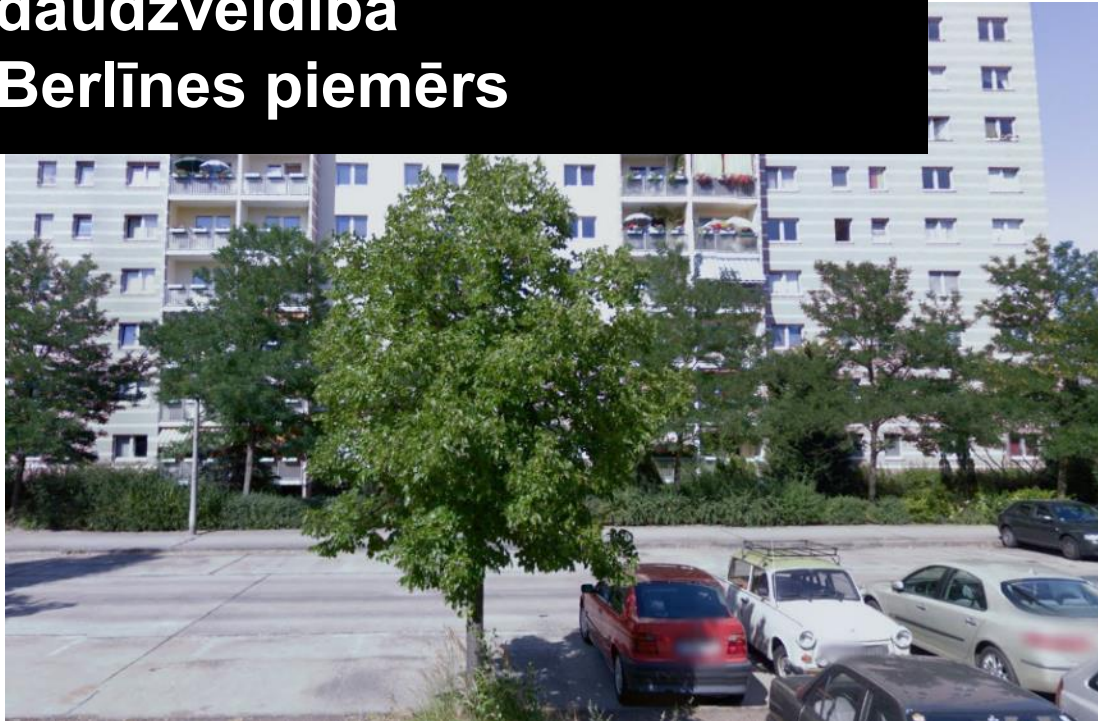




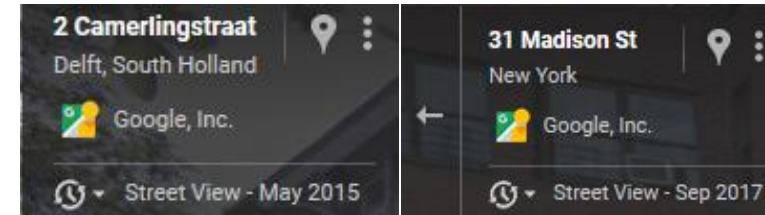




Tēls, arhitektūras daudzveidība Berlīnes piemērs



Tēls, arhitektūras daudzveidība Nīderlandes/ Ņujorka



Tēls, arhitektūras daudzveidība



Vides koptāls



fasāde

ieejas durvis

Autonovietne

lodžijas

velonovietne

Jaunie apjomi

atkritumi

Autonovietne pie ieejas

Pārvietošanas ātrums

Vertikālās komunikācijas

Pagalmu apstādījumu koptēls



Mikrorajona urbanitāte

TAB2013 konkursa darbs «DYNAMO»
Autori Izabella Cichonska, Nathan de Groot,
Lindsay Harkema, Ondrej Janku



Publiskā ārtelpa Pagalmu kop-radīšana ar iedzīvotājiem

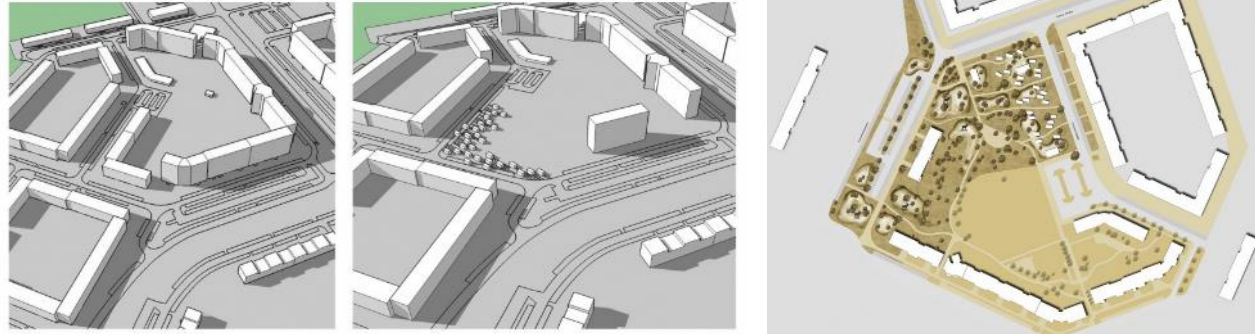
Refurbishment of Schorfheide real estate
Berlin (Germany), 2010

DEVELOPER:

degewo AG

AUTHORS:

gruppeF - Landschaftsarchitekten



Mobilitāte nākotnes kontekstā—mazāk stāvošo auto pagalmos



Mikrorajons Purvciems-3
Pagalmu risinājumi, jaunās
stāvietas, gājēju prioritāte





602 series

purvciems

62053 people

Dzelzavas 23 - first **602. series** building, built in 1967. Nine - storey slab buildings with load-bearing structure is constructed of lightweight aggregate concrete wall panels and concrete floor slabs. Separate bathroom, a balcony, a rather large kitchen. Built from the 1970th mid-year till 1980.



NORTH
FACADE



SOUTH
FACADE



EAST
FACADE



WEST
FACADE



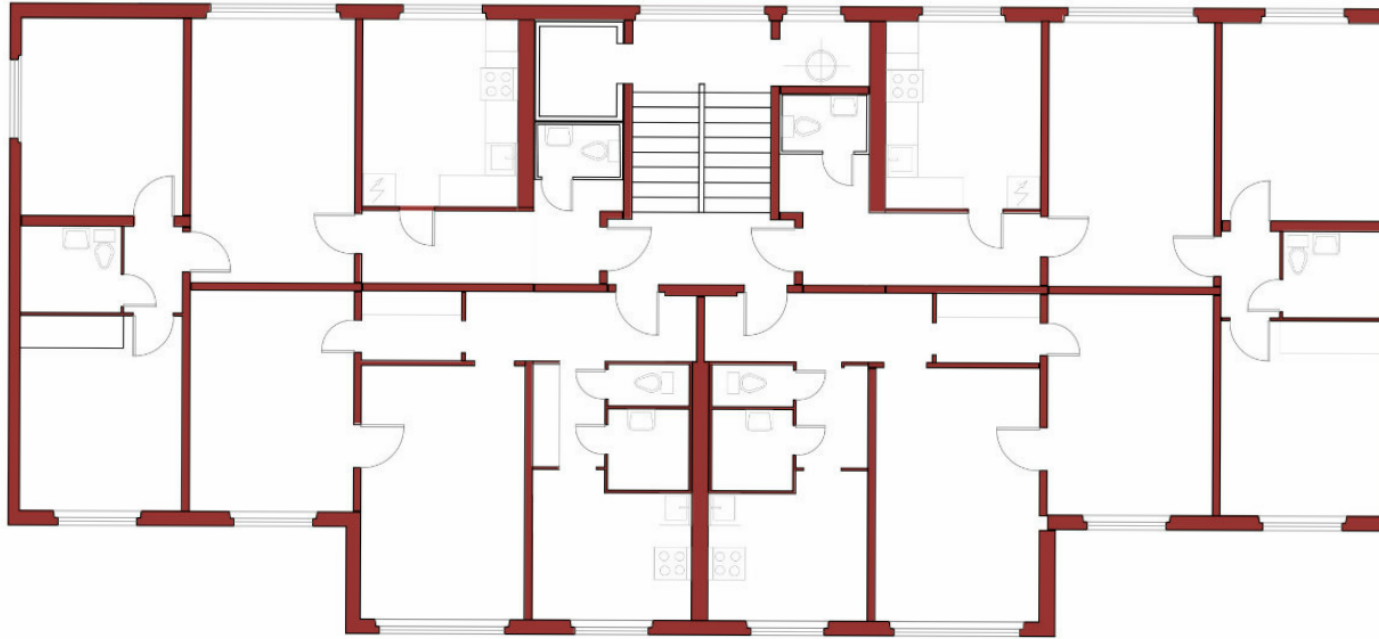
INTERIOR



ROOF



CURRENT FLOOR PLANS





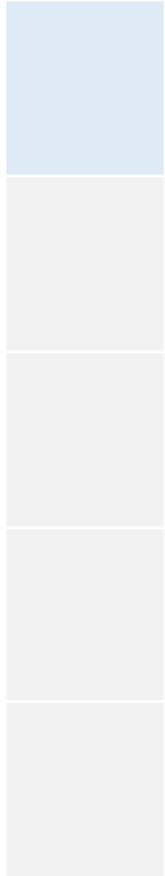
External walls- **Bachl extrapor EPS 80** insulation (250mm), Eternit cladding

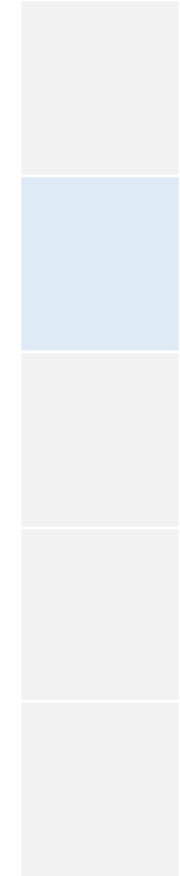
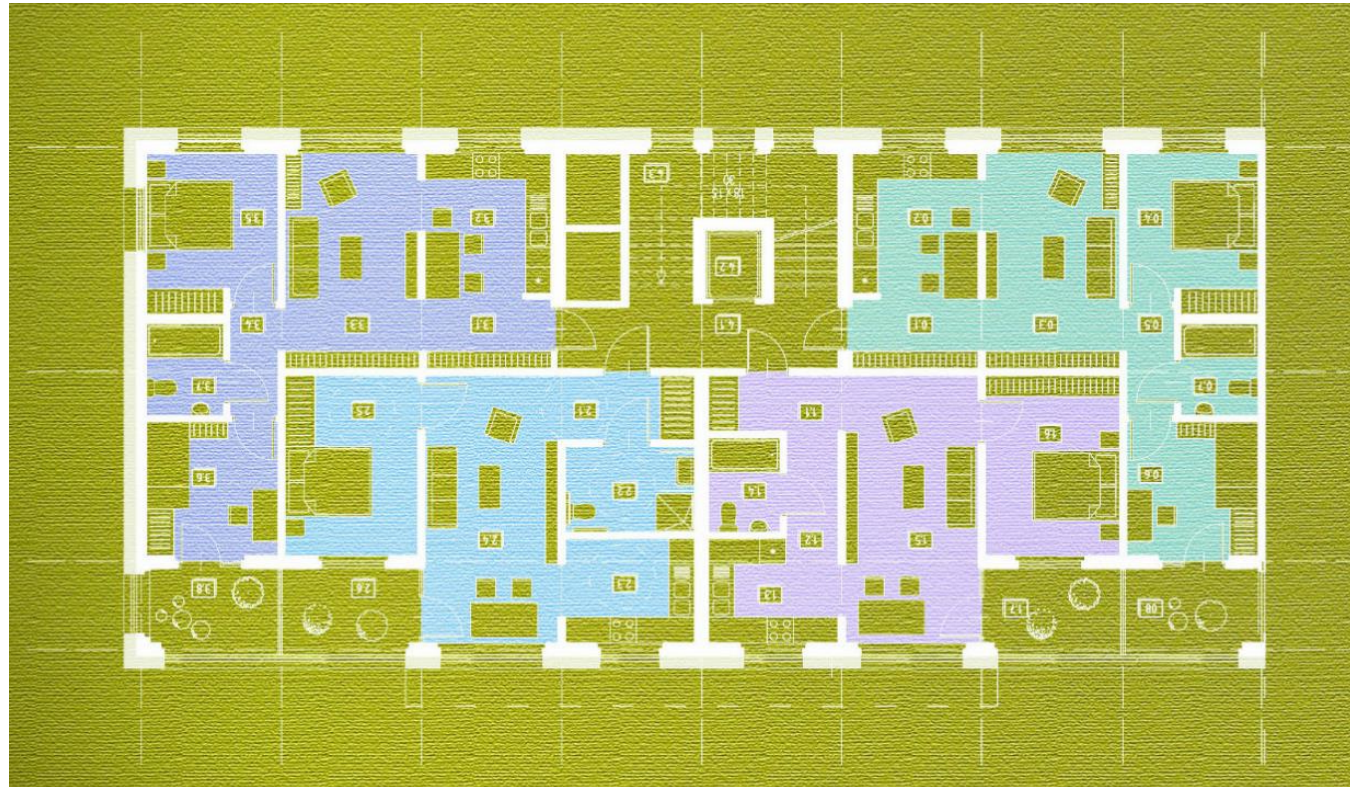
(new U-value **0.15 W/m2K**)

Windows- **Rationel** (U-value **0.66 W/m2K**)

Total renovation cost for the whole building- **1,010 mln.**

Payback- **2024** (10 years)





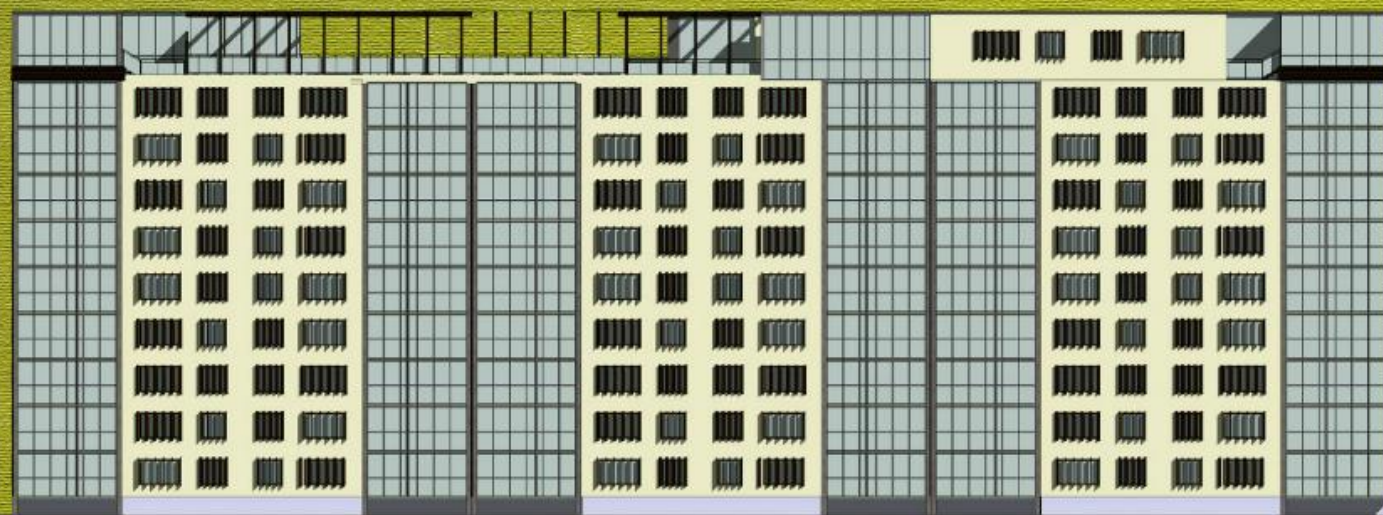
External walls- **Hemp** insulation (150mm), Eternit cladding
(new U-value **0.18 W/m2K**)

Windows- **Rational** (U-value **0.78 W/m2K**)

Total renovation cost for the whole building- **1,660 mln.**

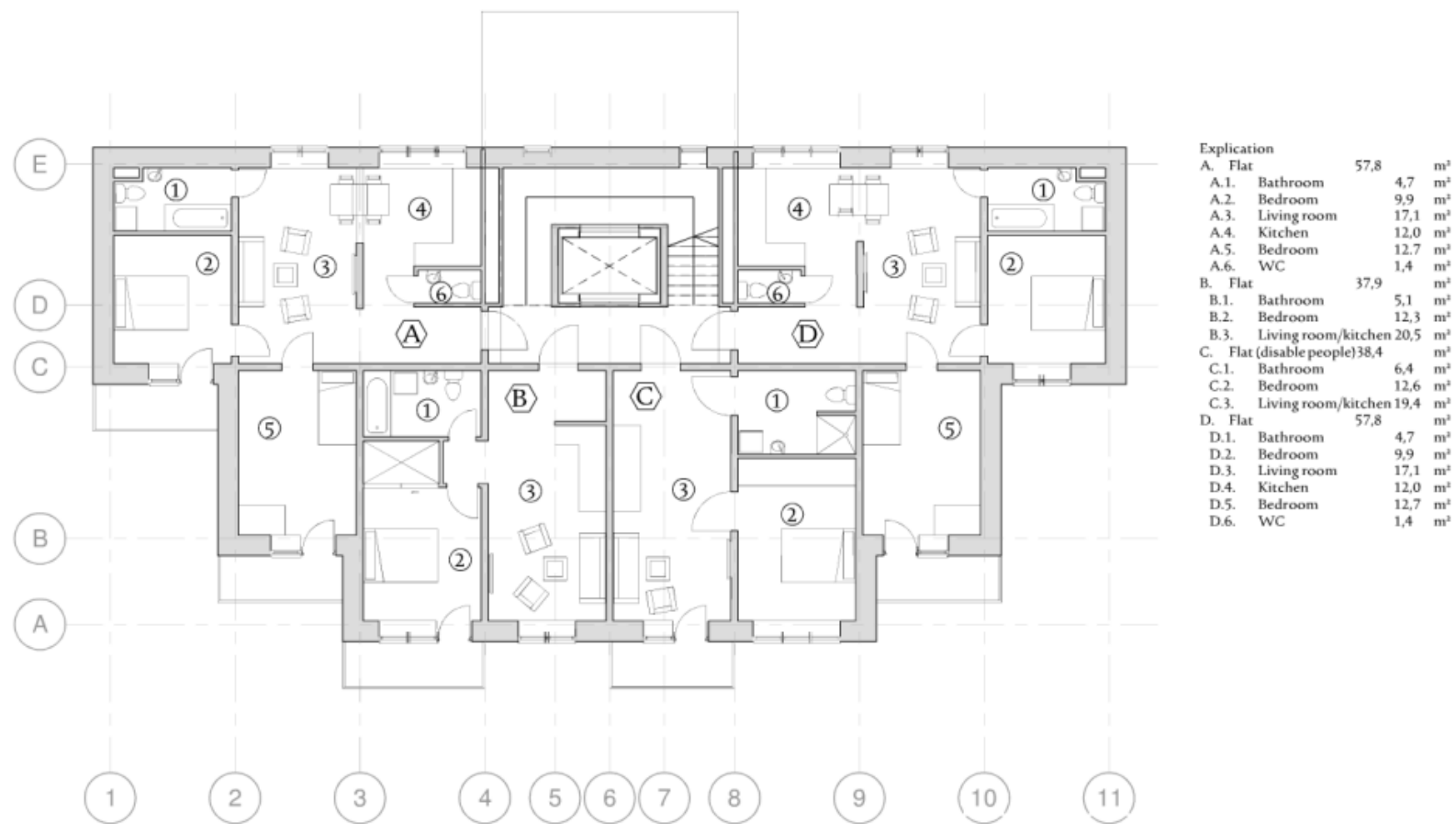


North



South

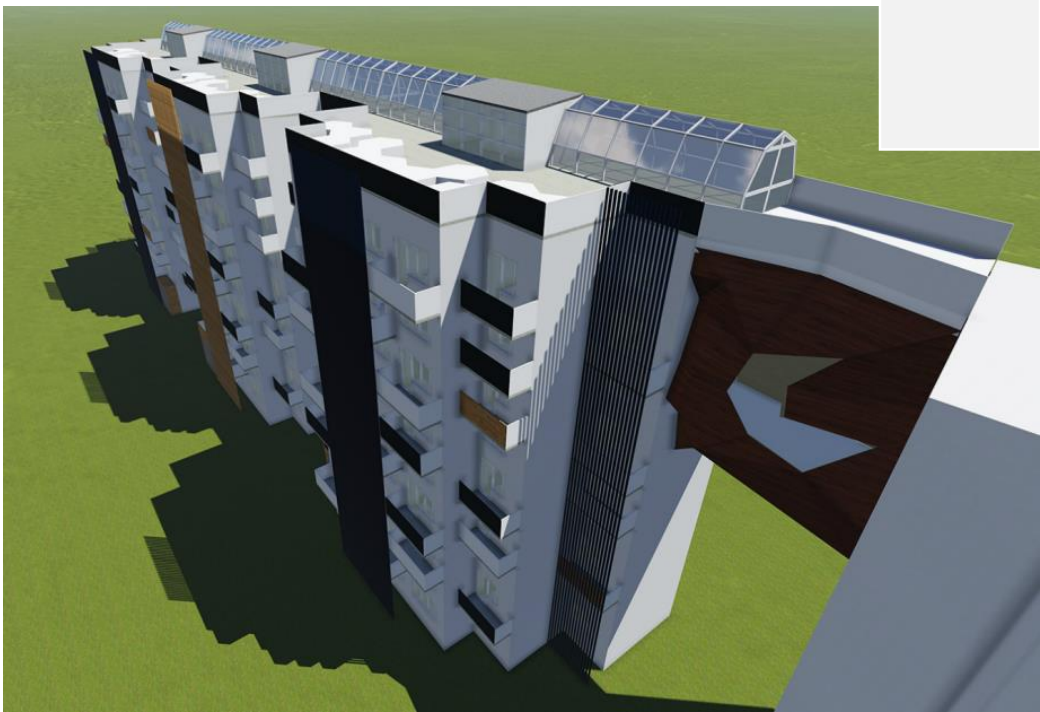
FACADE



External walls- **Polyisocyanurate** insulation (100mm), timber cladding
(new U-value **0.19 W/m2K**)

Windows- **Rationel** (U-value **0.66 W/m2K**)

Total renovation cost for the whole building- **1,910 mln.**

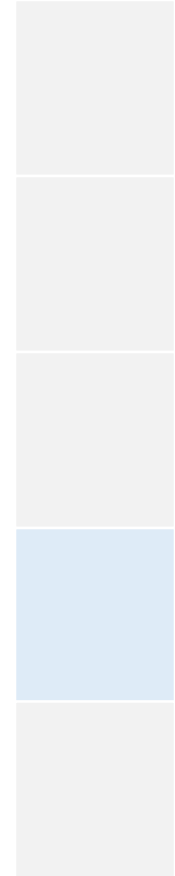




External walls- **PAROC** insulation (600mm), plaster (new U-value **0.13 W/m²K**)

Windows- **G25 GROUP** (U-value **1.0 W/m²K**)

Total renovation cost for the whole building- **1,080 mln.**



SECOND FLOOR



External walls- **Kingspan** insulation (200mm), plaster (new U-value **0.008 W/m2K**)

Windows- **SAPA Avantis 95 PassivHaus Window** (U-value **0.64 W/m2K**)

Total renovation cost for the whole building- **1,560 mln.**

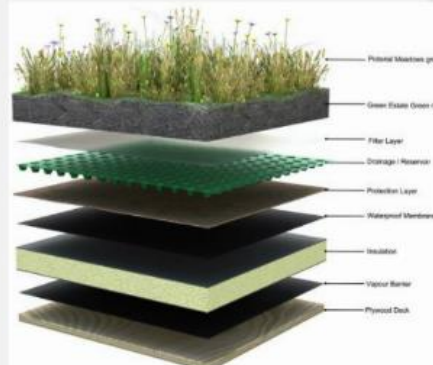
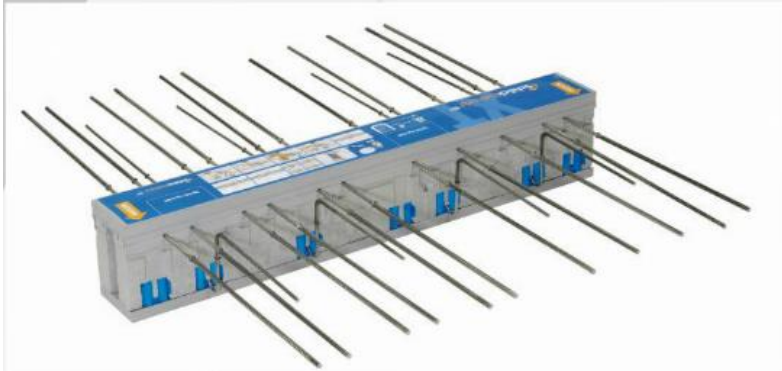
Payback- **2028** (14 years)



SOUTH FACADE



SUSTAINABLE SOLUTIONS



Vacum insulation panel

Kingspan optim R
5cm => $U=0,131 \text{ W/m}^2\text{K}$

