



citythinking

**Innovative approaches in planning residential complexes
taking into account modern technologies in construction**

(PSP)





ЗЕЛЕНАЯ ЗОНА ВНУТРИ ЗЕЛЕННОЙ ЗОНЫ... ГОРОД ВНУТРИ ДРУГОГО ГОРОДА
 A GREEN ZONE A GREEN... A CITY WITHIN A CITY

КАК ЗАДАВАЕТСЯ ПИКАЕТ?
 В МОСКВЕ? А НЕ МОЖЕТ?

ИНВЕСТИЦИИ В МОДЕЛЬ ТИПИЧНОЙ ПЯТИЭТАЖНОЙ СТАРЫЙ ПРОБЛЕМЫ ИЛИ ИДЕИ?

СМОТРИТЕ НА ЭТО
СМАРТ-СИТИ И СМАРТ-СИТИ

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НАСЧЕТЫ НА СЕНТЯБРЬ ПОКАЗЫВАЮТ РОСТ НАСЕЛЕНИЯ
 НАСЧЕТЫ НА СЕНТЯБРЬ ПОКАЗЫВАЮТ РОСТ НАСЕЛЕНИЯ



В МОСКВЕ? А НЕ МОЖЕТ?
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Первый план проекта А101



ОБЫЧНАЯ ИДЕЯ ДЛЯ ГОРОДА БУДУЩЕГО
 A WALKING IDEA FOR A CITY OF THE FUTURE

ОБЫЧНАЯ ИДЕЯ ДЛЯ ГОРОДА БУДУЩЕГО



ОБЫЧНАЯ ИДЕЯ ДЛЯ ГОРОДА БУДУЩЕГО

ОБЫЧНАЯ ИДЕЯ ДЛЯ ГОРОДА БУДУЩЕГО

ПОЯВИЛИСЬ В ГОРОДСКОМ ЛЕСУ
 CLEARINGS IN THE URBAN FOREST



ПОЯВИЛИСЬ В ГОРОДСКОМ ЛЕСУ

ПОЯВИЛИСЬ В ГОРОДСКОМ ЛЕСУ

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ПОЯВИЛИСЬ В ГОРОДСКОМ ЛЕСУ


ПОЯВИЛИСЬ В ГОРОДСКОМ ЛЕСУ

A101 BLOCK CITY - WINNING PROPOSAL

OUR JOURNEY TO A NEW KIND OF DWELLING

NEW PLANNING PROCESSES

SCIENTIFIC APPROACH



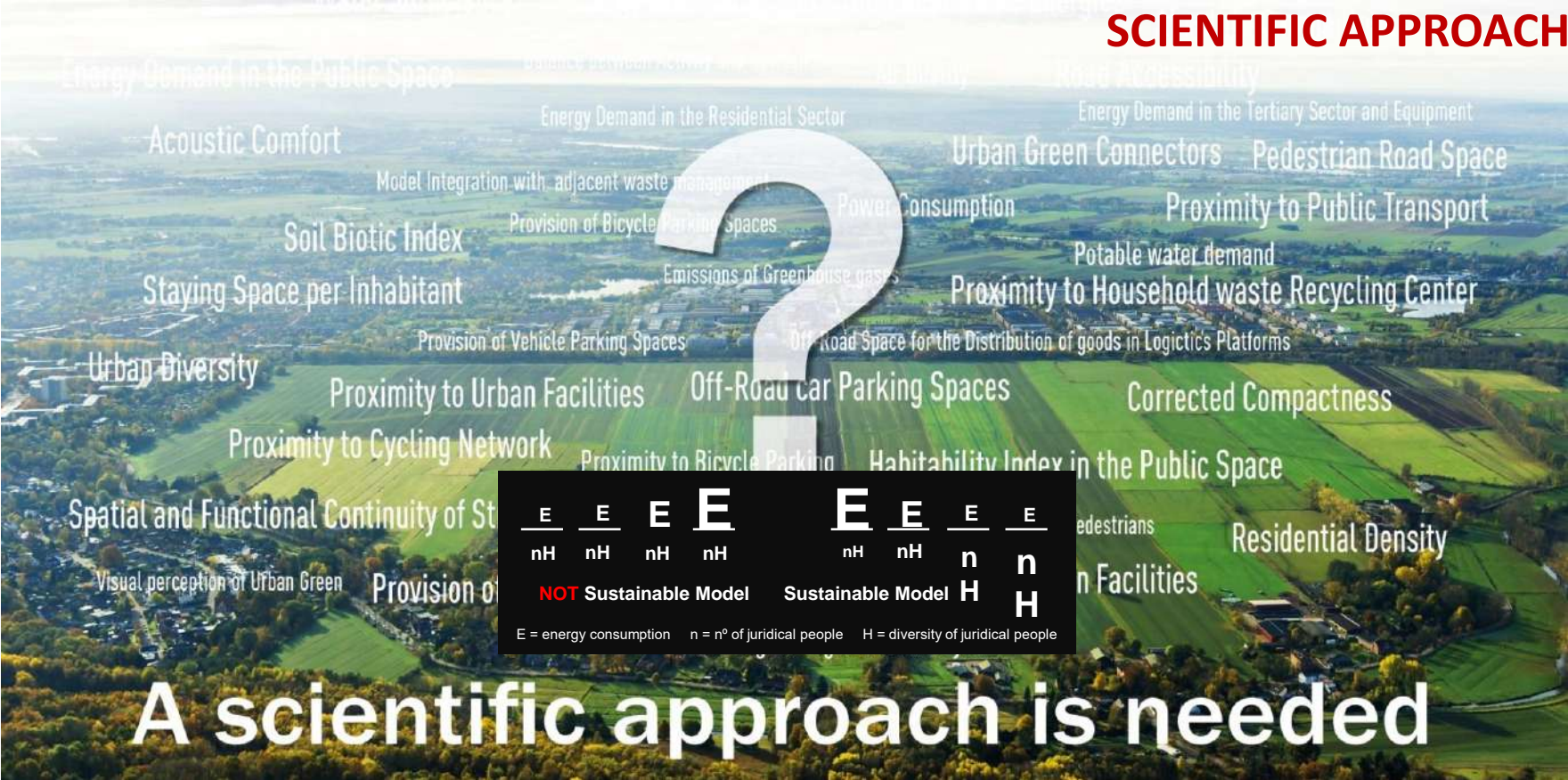
Current urban design-processes are facing difficulties in coping with environmental and growth pressures.

Rethinking urban development patterns is an urge.

How do we make urban development a catalyst for welfare and prosperity?

NEW PLANNING PROCESSES

SCIENTIFIC APPROACH



$\frac{E}{nH}$	$\frac{E}{nH}$	$\frac{E}{nH}$	$\frac{E}{nH}$	$\frac{E}{nH}$	$\frac{E}{nH}$	$\frac{E}{n}$	$\frac{E}{n}$
NOT Sustainable Model	Sustainable Model		H	H			
E = energy consumption n = n° of juridical people H = diversity of juridical people							

A scientific approach is needed

URBAN MODEL

PRINCIPLES OF ECOSYSTEMIC URBANISM

01. Compacity vs Sprawl
02. Critical Mass of Population, Activity and Services
03. Accesibility vs Private Mobility
04. Citizen vs Pedestrian
05. Habitability within Public Space
06. Urban Complexity vs Simplification
07. Hyperconnectivity
08. Green Spaces and Biodiversity
09. Self-Sufficiency vs Dependency
10. Water Self-Sufficiency and Renewable Resources
11. Reduction, Reuse y Recycling vs Waste.
12. Climatic change Adaptation and Mitigation.
13. Social Cohesion vs Exclusion and Social Segregation
14. Universal Access to Housing in more Sustainable Buildings.
15. Balanced Facilities Endowment and Distribution.



DEFINITION OF THE URBAN

Compact according to its morphology

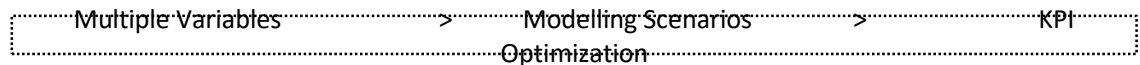
Complex according to its organization

Efficient according to its metabolism

Cohesive according to its social features

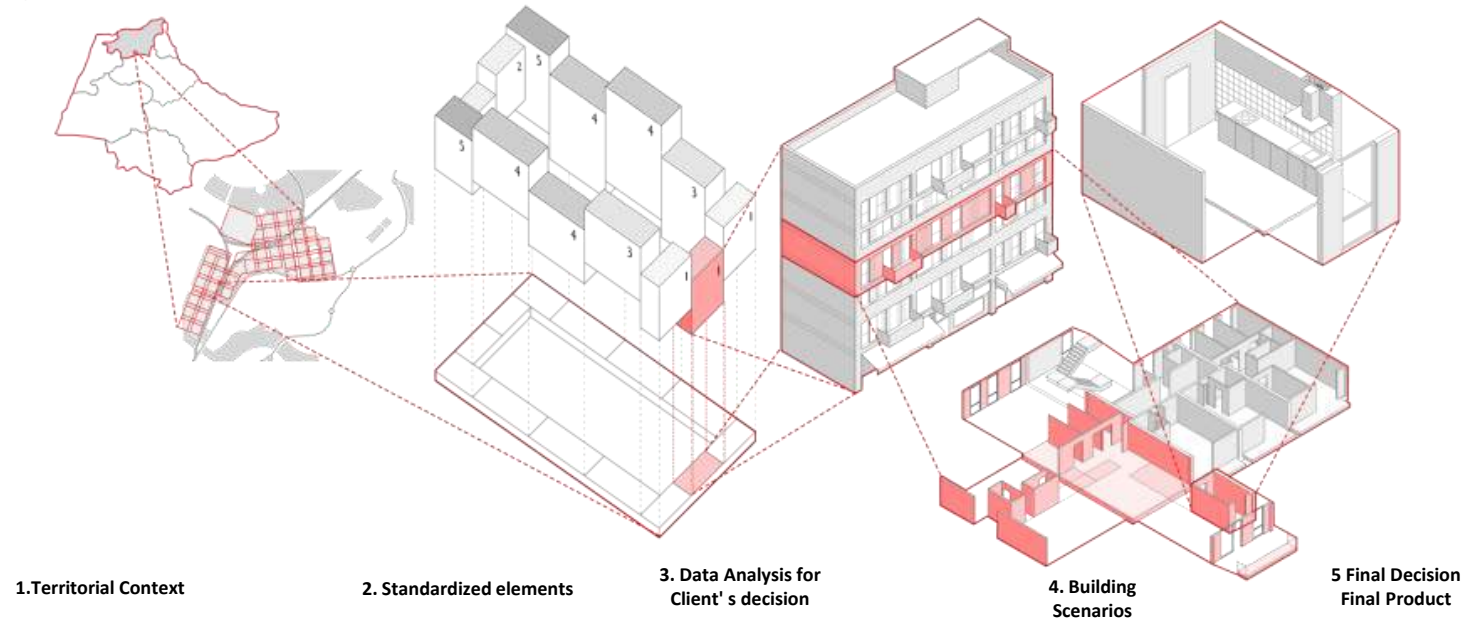
ECOSYSTEMIC URBANISM'S KPI'S

Compact according to its morphology
Complex according to its organization
Efficient according to its metabolism
Cohesive according to its social features

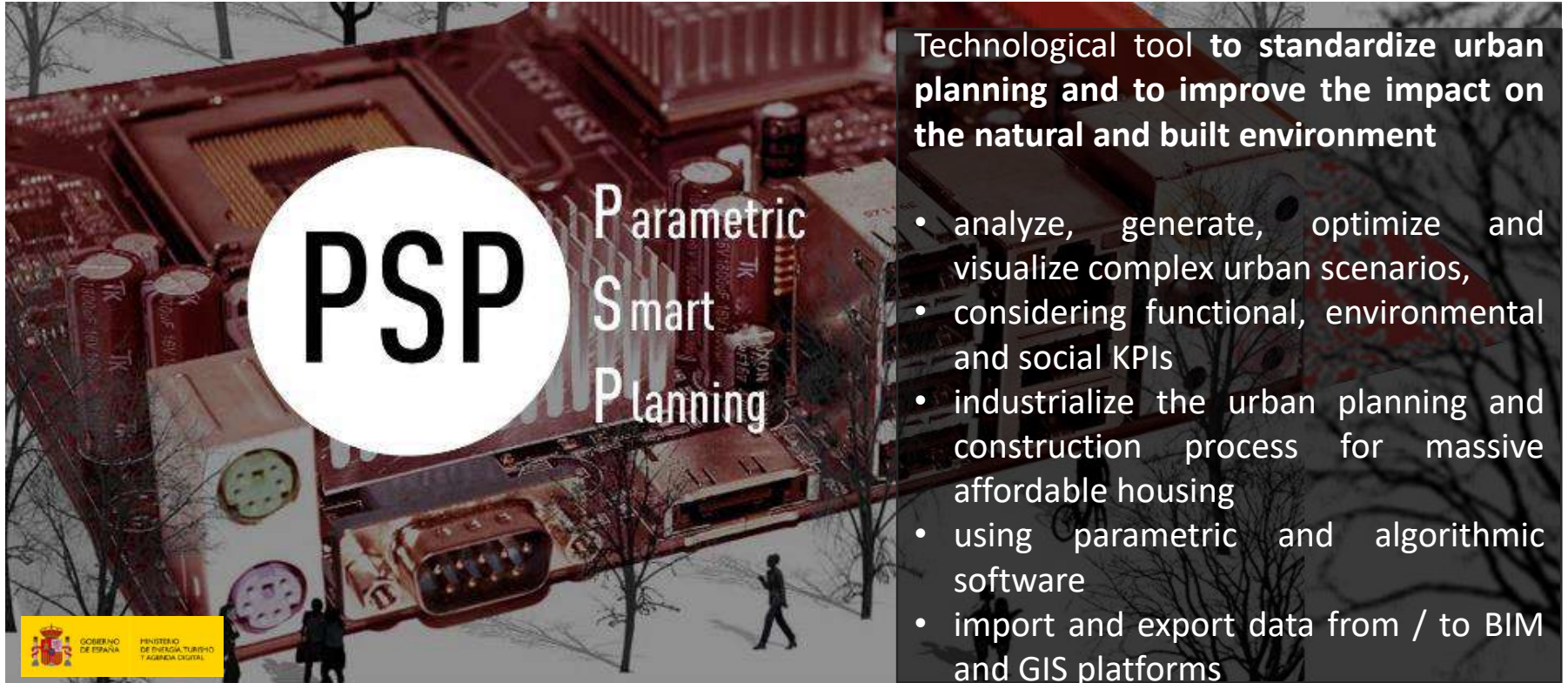


OUR INNOVATIVE APPROACH: PARAMETRIC METHODS FOR IDEAL URBAN CITY MODELS

URBAN MODEL: PATTERN-DRIVEN DESIGN



PSP_PARAMETRIC SMART PLANNING

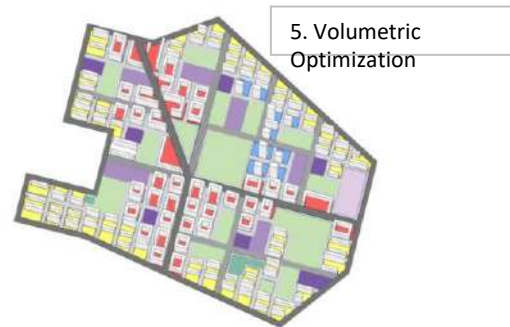
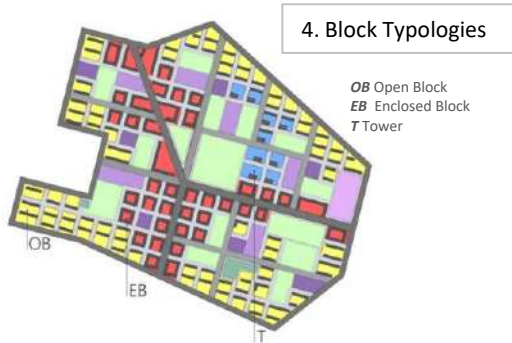
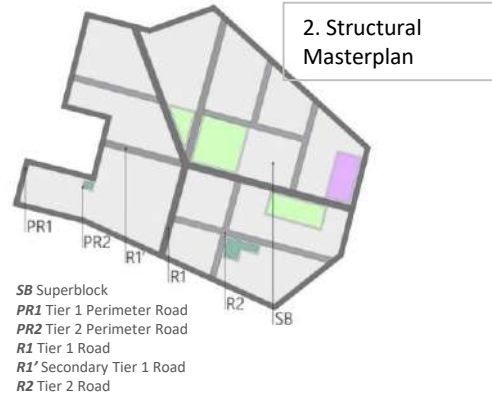
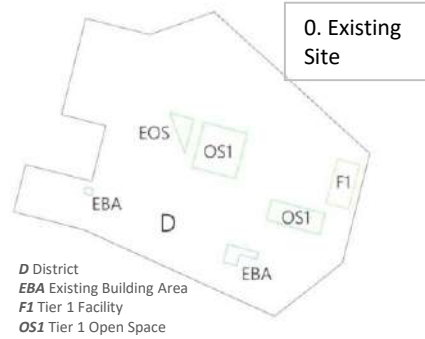


PSP Parametric Smart Planning

Technological tool to standardize urban planning and to improve the impact on the natural and built environment

- analyze, generate, optimize and visualize complex urban scenarios,
- considering functional, environmental and social KPIs
- industrialize the urban planning and construction process for massive affordable housing
- using parametric and algorithmic software
- import and export data from / to BIM and GIS platforms

OUR TOOL: PSP DEVELOPMENT PHASES



6. KPI

Sustainability Indicators

Energy (kWh/m²)	18%
Water (l/m²)	10-4%
CO2 (kg/m²)	11-4%
Cost (€)	17%

Final Qualification: 95,2%

Costplan

1	12.000,00	€22
2	21.200,00	€42
3	21.000,00	€42

WATER SYSTEM

Item	Unit	Value
1. Water supply (cold)	m³	1.000,00
2. Sewerage (cold)	m³	1.000,00
3. Stormwater	m³	1.000,00
4. Water supply (hot)	m³	1.000,00
5. Sewerage (hot)	m³	1.000,00

OUR TOOL: PSP INTERFACE

The screenshot shows the PSP Parametric Smart Planning software interface. The interface is divided into several sections:

- Action Buttons:** Located at the top left, pointing to the menu bar (File, Edit, Save As, Open, Parameters).
- Development Stage:** Located on the left side, pointing to the 'STEP' panel which shows a 2D site plan and a legend for Block, Road, Open Space, Facility, and Facility.
- Dashboard Button:** Located at the bottom left, pointing to the 'BLOCK TERRITORY BALANCE' section.
- Visualization Options:** Located at the top center, pointing to the 'FACILITIES' and 'TIER 3 FACILITIES' panels.
- Geometry Window:** Located at the top right, pointing to the '3D VIEW' window showing a 3D model of the site plan.
- Parameters:** Located at the bottom center, pointing to the 'TIER 2 FACILITIES + OPEN SPACES' and 'TIER 3 FACILITIES' panels.
- Diagrams & KPIS:** Located at the bottom right, pointing to the 'EXISTING AREAS + FACILITY NETWORK CHARTS' section which contains five donut charts showing area proportions.
- CTTK Web:** Located at the top right, pointing to the 'citythinking' logo in the top right corner.

The 'EXISTING AREAS + FACILITY NETWORK CHARTS' section contains the following data:

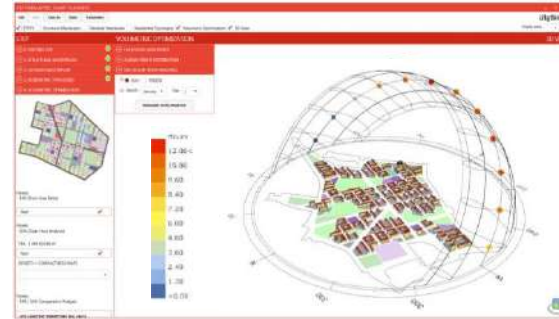
Chart	Value
Existing Building Area (as a percentage of District Area)	6%
Open Spaces Area (as a percentage of District Area)	11%
Facilities Area (as a percentage of District Area)	6%
Open Space Area Proportion (as a percentage of Open-Space Area %)	38% Existing OS, 11% Tier 1 OS, 50% Tier 2 OS
Facilities Area Proportion (as a percentage of Facilities Area %)	32% Tier 1 FA, 28% Tier 2 FA, 40% Tier 3 FA



OUR TOOL: PSP EVALUATION THROUGH KPI'S



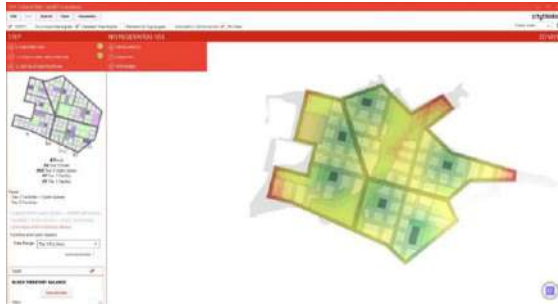
Map of Distances



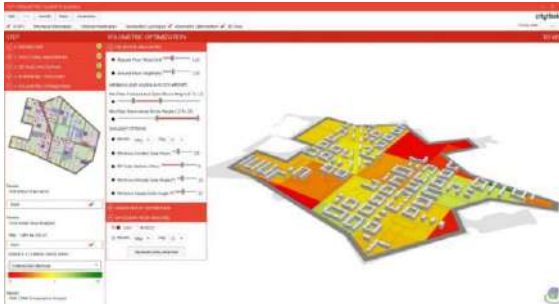
Sunlight Analysis



Map of Connectivity



Map of covering Public Facilities



Map of Compacity



Final Evaluation



SPANISH QUARTER MOSCOW
2013 – 2018



PSP in action: City Extension Completed
Standardized optimization - cost and time



SPANISH QUARTER

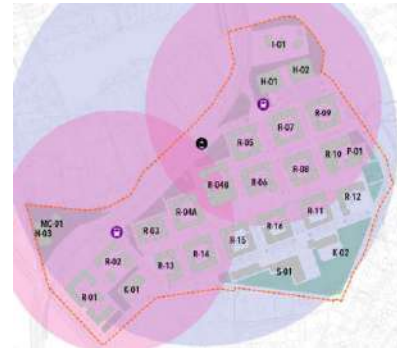
KPI EVALUATION



Corrected Compactness



Public Space



Public Transport Coverage



Alternative Transport Infrastructure



Apartment Density



Water Consumption



Energy Consumption







THANK YOU

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