



Innovation – System Dominum

Increasing energy efficiency in buildings by greatly
enhancing your home's value

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BUILD2LC - Related to Good Practices

1. **Reconstructed public buildings in City of Zagreb under the ZagEE project (REGEA, Croatia)**
2. **Countdown to Low Carbon Homes (SWEA, UK)**
3. **Podkarpackie Low-Energy Consumption Technologies Transfer Centre's Passive House (RRDA, Poland)**

Croatia, September 2016



Energy Transition event, Firenze, June 2018



SYSTEM DOMINUM APPROACH

- Buildings are responsible of 40% of EU final energy consumption.
- Energy escapes mainly through walls and windows. So, let's renovate the façades, right?
- But this is expensive and uncomfortable for tenants so, why not building a NEW building envelope?

→ Instead of renovating the walls... **build new ones!**



1. Before renovation

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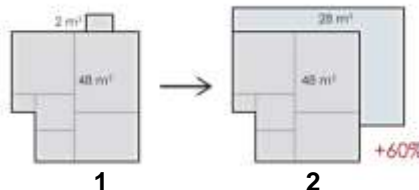
- Small apartments
- No elevator
- No earthquake safety
- No thermal insulation



2. After renovation

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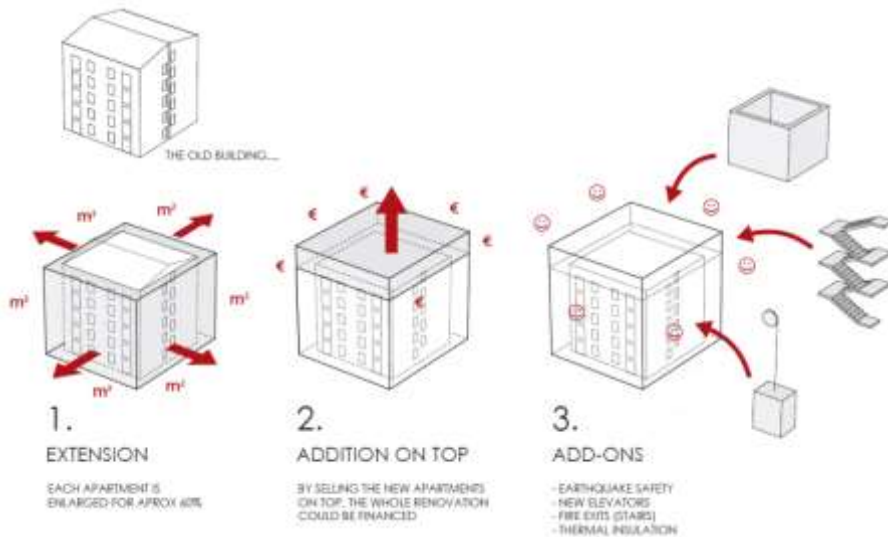
- ✓ **Larger**, more flexible (and higher value) **apartments**
- ✓ Earthquake safety enhanced
- ✓ Thermal insulation
- ✓ Elevators!



2. After renovation

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- Furthermore, the reinforcement of the structure could let us add top additional floors.
- Incomes from selling new apartments might finance entirely the renovation works!

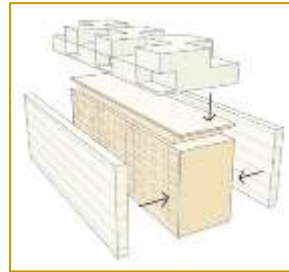


Challenges addressed (i):

1. Developing cross sector cooperation between relevant sectors: renewables, energy efficiency, engineering, architecture
2. Identifying and accessing innovative funding methodologies, including both public and private investment
3. Improving SME competitiveness in the energy efficiency field

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- Floor area extensions are possible as well for a limited number of façades



Addition on top:

adding the new apartments

Extension:

increasing the floor area of the existing apartments



Challenges addressed (ii):

4. Improving SME competitiveness in the energy efficiency field.
5. Improving consumer behaviour.
6. Improving energy efficiency in private and public buildings.

And...

→ The owner's financial assistance, if needed might be backed up by a notoriously higher value of the property!

KEY PLAYERS ENGAGEMENT



Owners – young families



Owners – old and disabled people



Landlords

Tenants



Municipalities



National authorities

Apartment size increase

Elevators

Earthquake safety improved

Value of property increase (~100%)

Sustainable strategy for urban growth

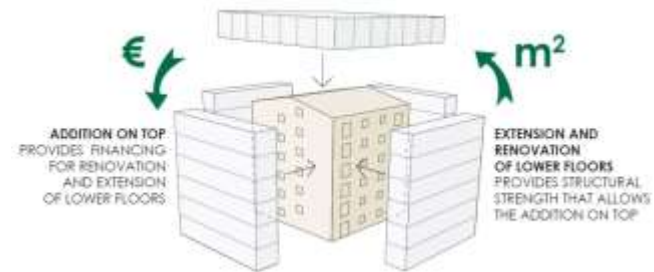
Energy efficiency:
↓ cost, ↑ confort

Greener, nicer urban look



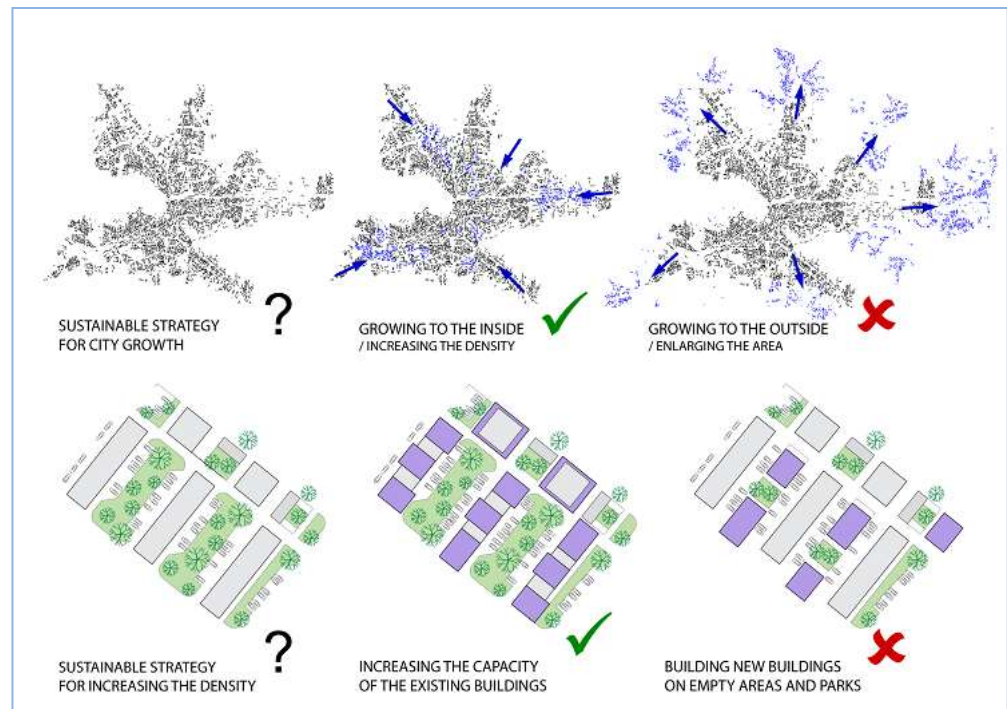
WHAT MAKES US DIFFERENT?

- When performing energy rehabilitation of dwellings, we usually think in renovating the envelope (façades and windows). This is expensive, so hard to finance, and very uncomfortable.
- Instead, *System Dominum* proposes to build a NEW totally modern envelope plus, when possible, addition on top.
- This concept is not only about energy rehabilitation in buildings, but a economically sustainable approach that might change to greener the look of the most humble neighbourhoods all over Europe!



From the point of view of **municipalities**:

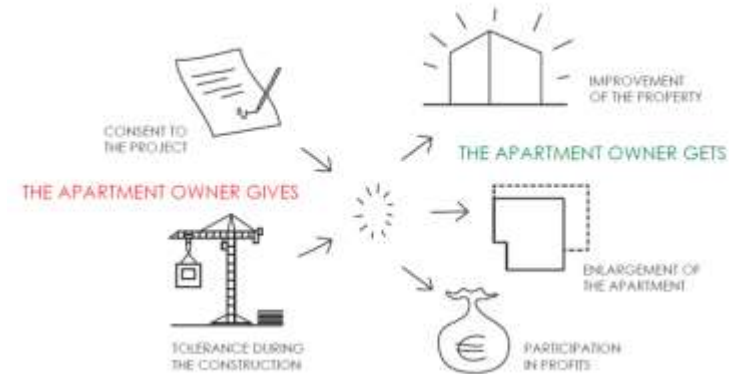
- Applying *System Dominum* concept is also better than increasing city surface.
- Available area is scarce, **and green areas should be kept** as green as they already are.
- Also, it is specially addressed for **cheap dwellings and social housings**, precisely the buildings that are harder to renovate!



SUSTAINABILITY OF THE APPROACH

The *System Dominum* renovations could finance themselves, without any subsidies. The owners do not get only thermal insulation, but also:

- Bigger size apartments and better quality dwellings and buildings
- Earthquake safety enhanced
- Elevators!
- The new floors might cover completely the renovation costs



❑ Changes are announced in the **Housing Act**. Under the new Housing Act will be sufficient 75% consent for the implementation of major renovations

❑ The City of Ljubljana is changing the **spatial plan** -> in December

❑ Efforts are also being made to obtain funding from ELENA technical assistance for the preparation of energy renovation projects for multi-apartment buildings and its financing. 90% of the cost of project documentation could be financed through the ELENA which is very encouraging, especially for multi-apartment buildings with a smaller number of owners (from 3 to 10), where the cost of documentation represents a large part of the final investment cost.



Bi-lateral meeting (LEAG - AEA)

- Ljubljana, Slovenia, September 2018
- Director of Housing Fund of the Republic of Slovenia
- Energy manager of City of Ljubljana
- Petrol d.d. (ESCO)





Thank you!