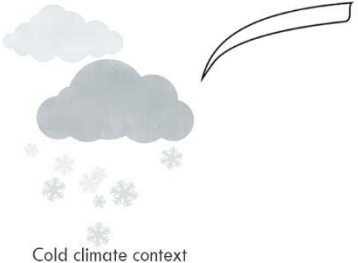
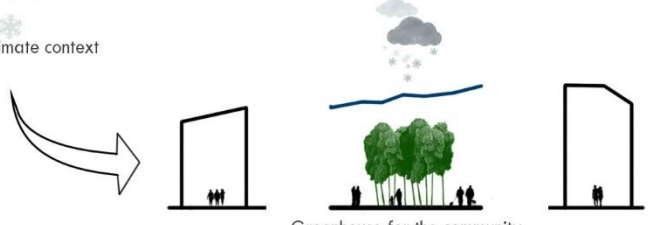
Inhabiting the Nature

Traditional living context
Community inside the yurta

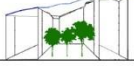


Cold climate context

Nature

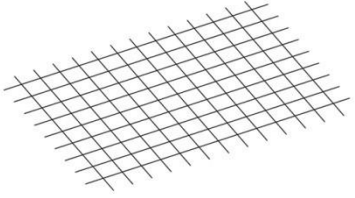


Greenhouse for the community
surrounded by the housing unit

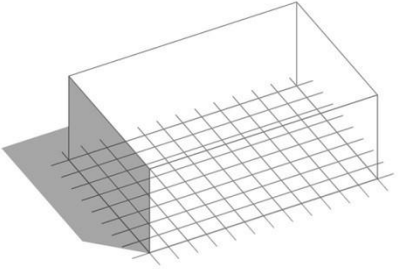


Concept

Artenii Valeria
Țînțari Andrei



GRID



COMPACT VOLUME

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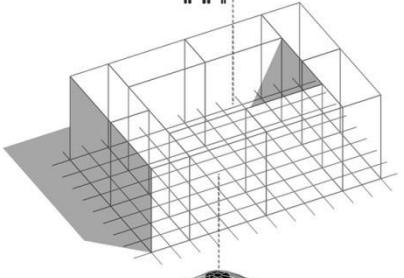
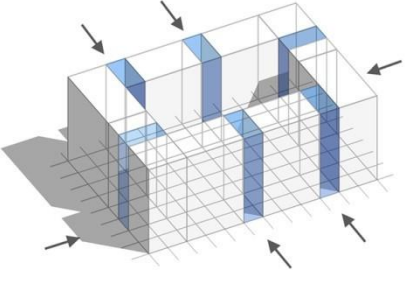
Țînțari Andrei

Place for the Community- Neighbourhood Courtyard

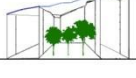


Traditional yurta - Community nucleus

COURTYARD TRADITION



VOLUME ACCES



Volume formation

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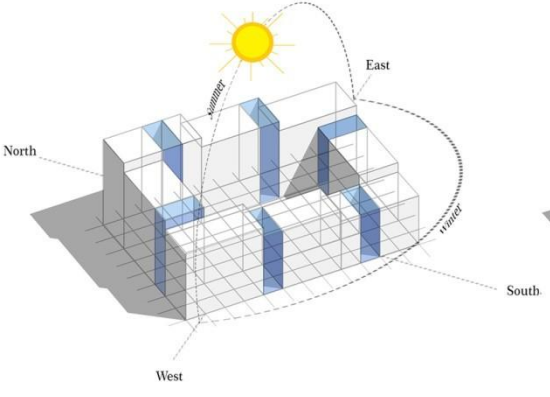
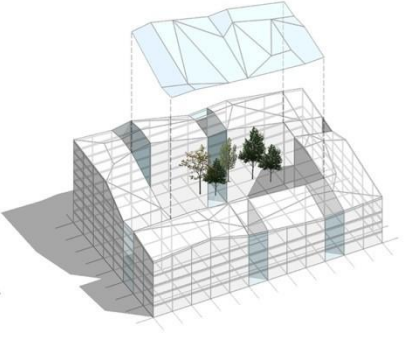
Țînțari Andrei

Lowering the volumes to offer good
sun orientation for all of the appartments

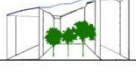


SUN ORIENTATION

Creating an interior
controlled microclimate



COURTYARD COVERING



Volume formation

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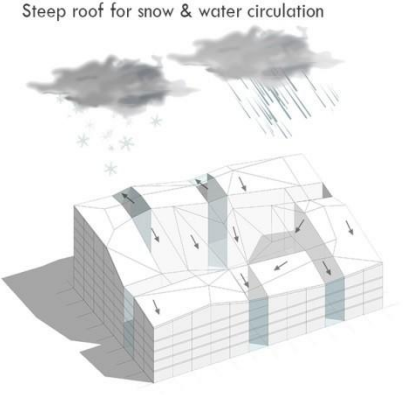
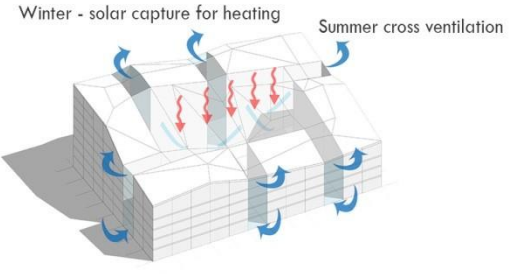
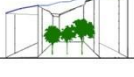
Țînțari Andrei



WATER CIRCULATION



SUMMER & WINTER BEHAVIOUR
OF THE COVERED COURTYARD



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Țînțari Andrei

Context

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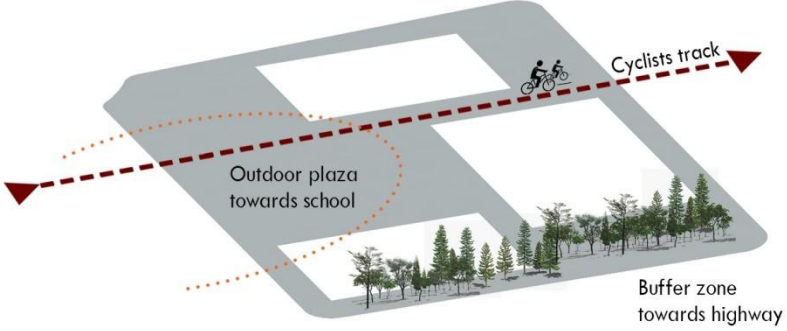
Țîncari Andrei



MASTERPLAN IMPLANTATION

Volumes on site

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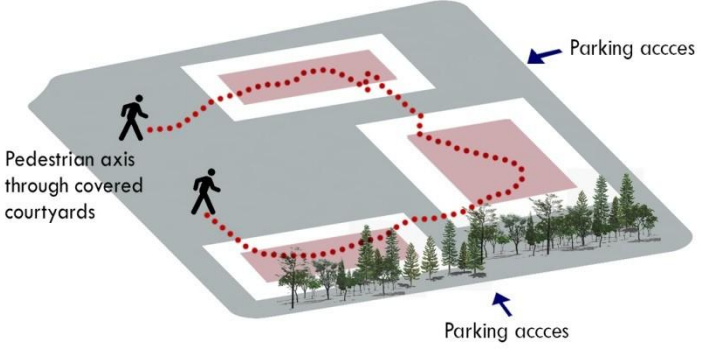
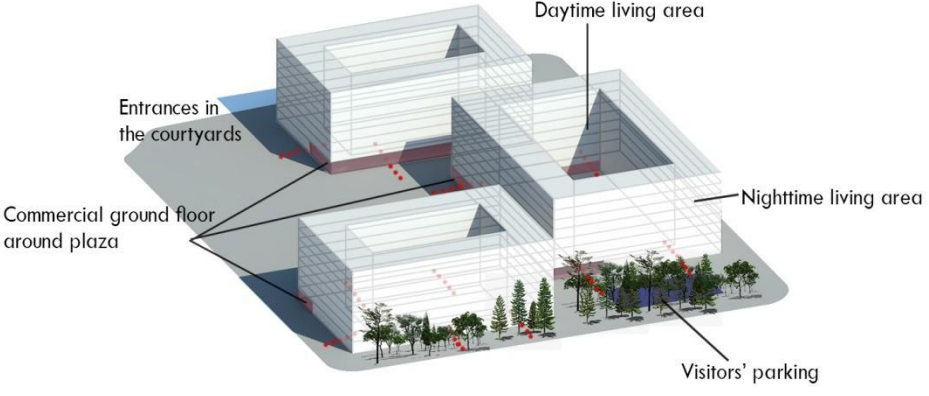
Țîncari Andrei



CONNECTIONS BETWEEN COURTYARDS

Volumes on site

Artenii Valeria
Țînțari Andrei



RELATIONSHIP BETWEEN VOLUMES

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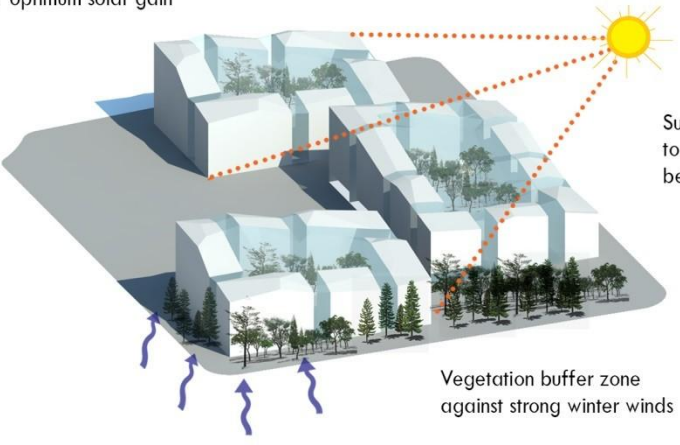
Țînțari Andrei

Shape of the roof and greenhouse
for optimum solar gain



Sun orientation in order
to avoid overshadowing
between volumes

Vegetation buffer zone
against strong winter winds

SUN & WIND

Volumes on site

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Master plan

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Țînțari Andrei

3d view

Artenii Valeria
Țîncari Andrei

Facilities

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Țîntari Andrei

Greenhouse - controlled microclimate
Vegetation area
Urban farming area

Natural ventilation
Recycling
Rain water and grey water use

Photovoltaic panels for electricity
Translucent photovoltaic film

Sustainability

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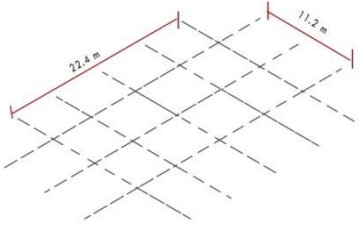
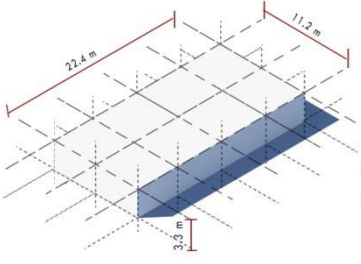
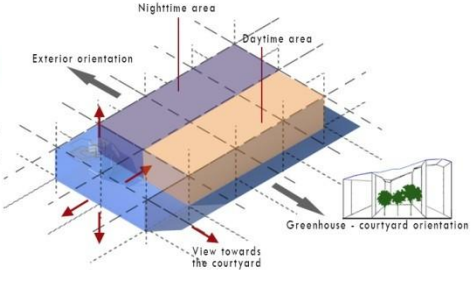


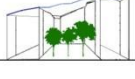
5.6 x 5.6 m GRID



LIVING MODULE



CIRCULATION AREA
DOUBLE ORIENTATION



Creating the living module

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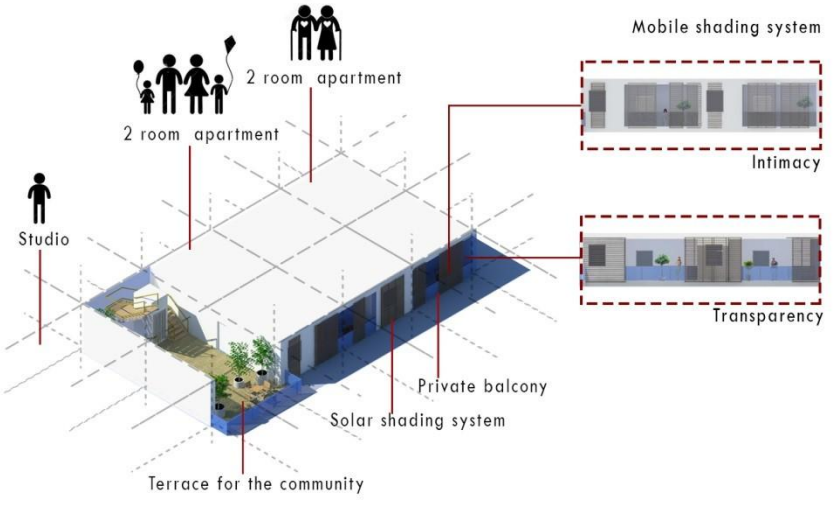

APARTMENT DIVERSITY AND PLACE FOR THE COMMUNITY

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Țînțari Andrei

Community terrace

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Țînțari Andrei

Module 1 : 3 studios

Module 2 : 2 room apartments

Module 3: 3 room apartment + studio

Module 3: 3 room apartment + studio with intermediate circulation

Module 5 : 4 room apartment & 2 room apartment

Diversity in apartment typologies, offering different living scenarios :
- children growing up and moving into a studio near the parents' apartment;
- studios for students from the nearby university;
- 4 room apartments for big families with more generations.

Apartment plans

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Țînțari Andrei

First floor offices near the passage

Plaza near the school

Commercial ground floor towards the exterior

Children playground area

Legend

- commercial/offices
- daytime living area
- nighttime living area

Encouraging alternative circulation

Coverd courtyard greenhouse with urban farming area and place for the community

Ground floor

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Playground area

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Țînțari Andrei

Legend

- commercial/offices
- studio
- 2 room apartment
- 3 room apartment
- 4 room apartment

1st floor

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Țînțari Andrei

Module 3:
3 room apartment + studio

Module 1 : 3 studios

Module 2 : 2 room apartments

Legend

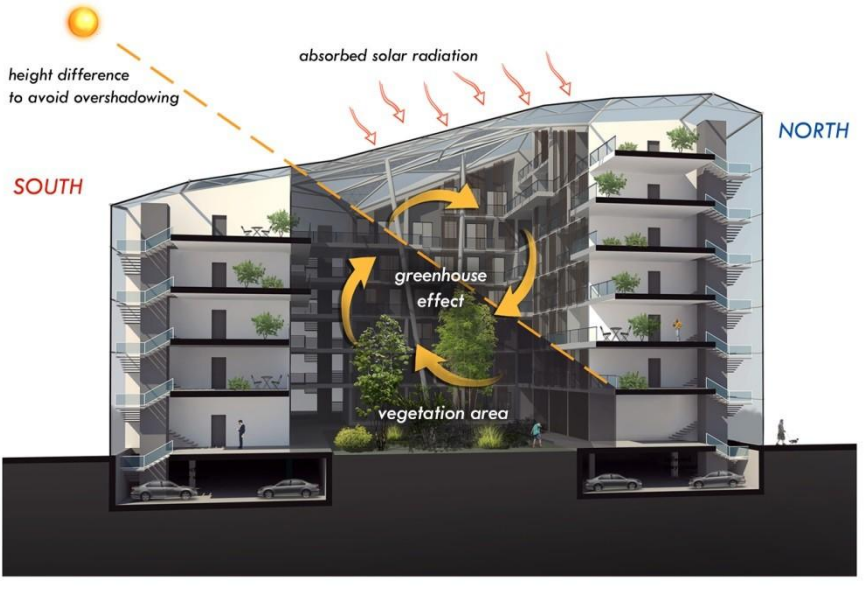
- commercial/offices
- studio
- 2 room apartment
- 3 room apartment
- 4 room apartment

1st floor

Module 3: 3 room apartment + studio with intermediate circulation

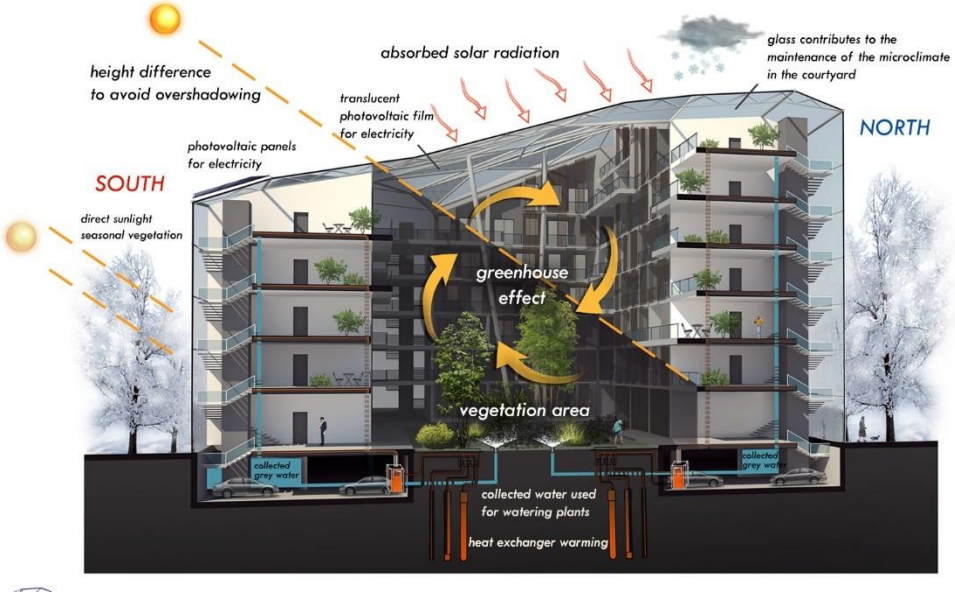
Module 5 : 4 room apartment & 2 room apartment

Artenii Valeria
Țîntari Andrei



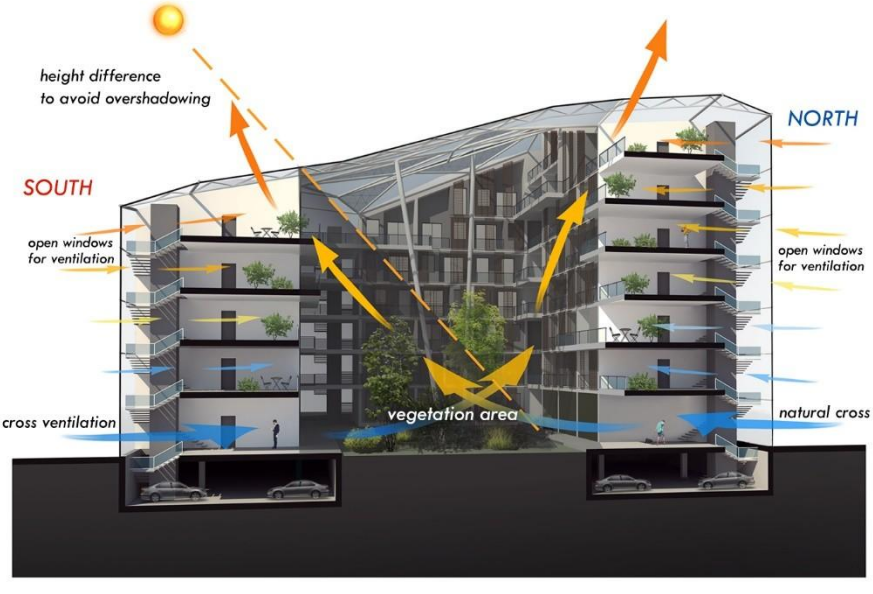
Winter effieciency diagram

Artenii Valeria
Țîncari Andrei



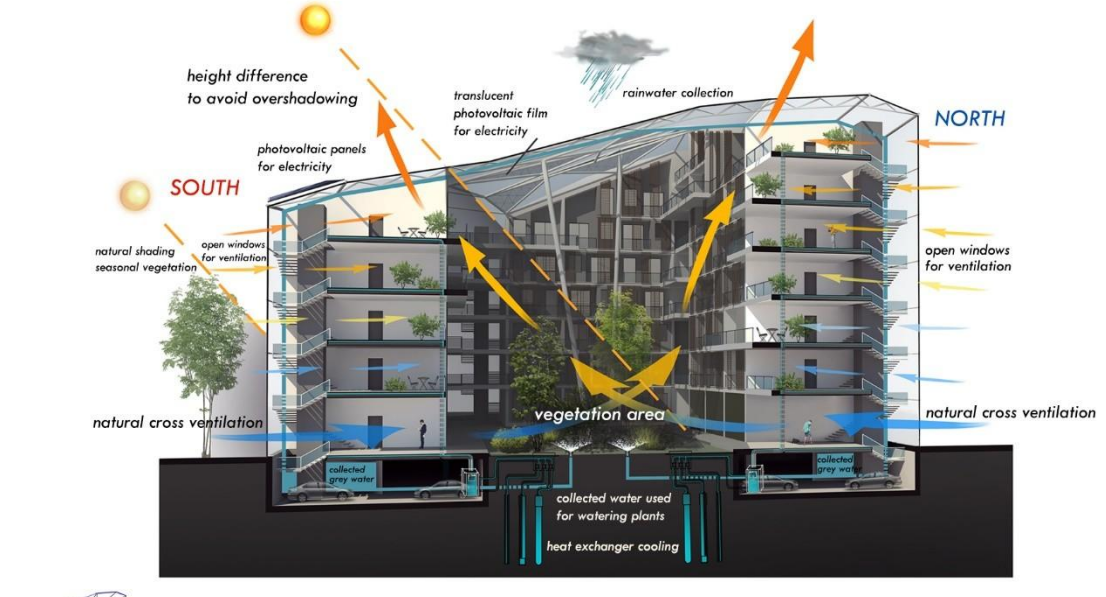
Winter effieciency diagram

Artenii Valeria
Țînțari Andrei



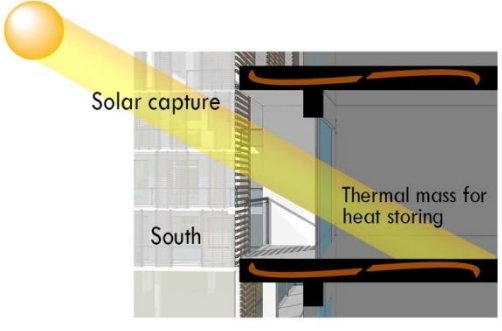
Summer effieciency diagram

Artenii Valeria
Țînțari Andrei

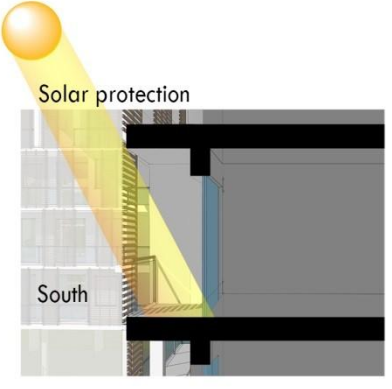


Summer effieciency diagram

Artenii Valeria
Țînțari Andrei

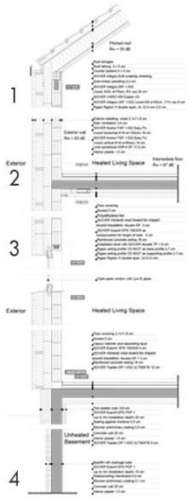


Winter strategy



Summer strategy

Artenii Valeria
Țînțari Andrei



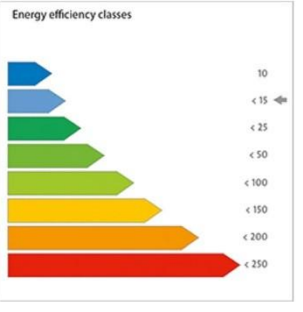
Construction details

Artenii Valeria
Țîntari Andrei

CALCULATIONS

Heat Demand Calculations

Transmission Heat Losses:	31975.43	kWh/a
Ventilation Heat Losses:	8595.76	kWh/a
Total Heat Losses:	40571.19	kWh/a
Internal Heat Gains:	10205.19	kWh/a
Available Solar Heat Gains:	19704.66	kWh/a
Total Heat Gains:	27870.98	kWh/a
Annual Heat Demand:	12700.21	kWh/a
Specific Annual Heat Demand:	13.99	kWh/(m²a)



The calculation was done for the 22.4 m x 11.2 m module, but whithout taking into consideration the full potential of the housing unit, given the fact that we also have a greenhouse with different behaviour during summer and winter. Therefore, all of the interior facades and walls towards the stairs are all warm walls, since they are in contact with the greenhouse. Unfortunately, the Multi Comfort Designer did not have a greenhouse scenario, which majorly improves the multi comfort house criteria, since it retains the heat during winter and keeps a cool controlled climate during summer through ventilation.

Artenii Valeria
Țînțari Andrei

Summer plaza view

Artenii Valeria
Țîncari Andrei

Winter plaza view

Artenii Valeria
Țînțari Andrei


תודה
Dankie
Gracias
Спасибо
شكراً
Merci
Köszönjük
Terima kasih
Grazie
Dziękujemy
Dėkojame
Ďakujeme
Vielen Dank
Paldies
Kiitos
Täname teid
谢谢
Рахмет
Tak
感謝您
Obrigado
Teşekkür Ederiz
감사합니다
Σας Ευχαριστούμε
ขอบคุณ
Bedankt
Děkujeme vám
Thank You
Tack