

 unihouse

Prefabricated construction



unihouse

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[www.unihouse.pl](http://www.unihouse.pl)

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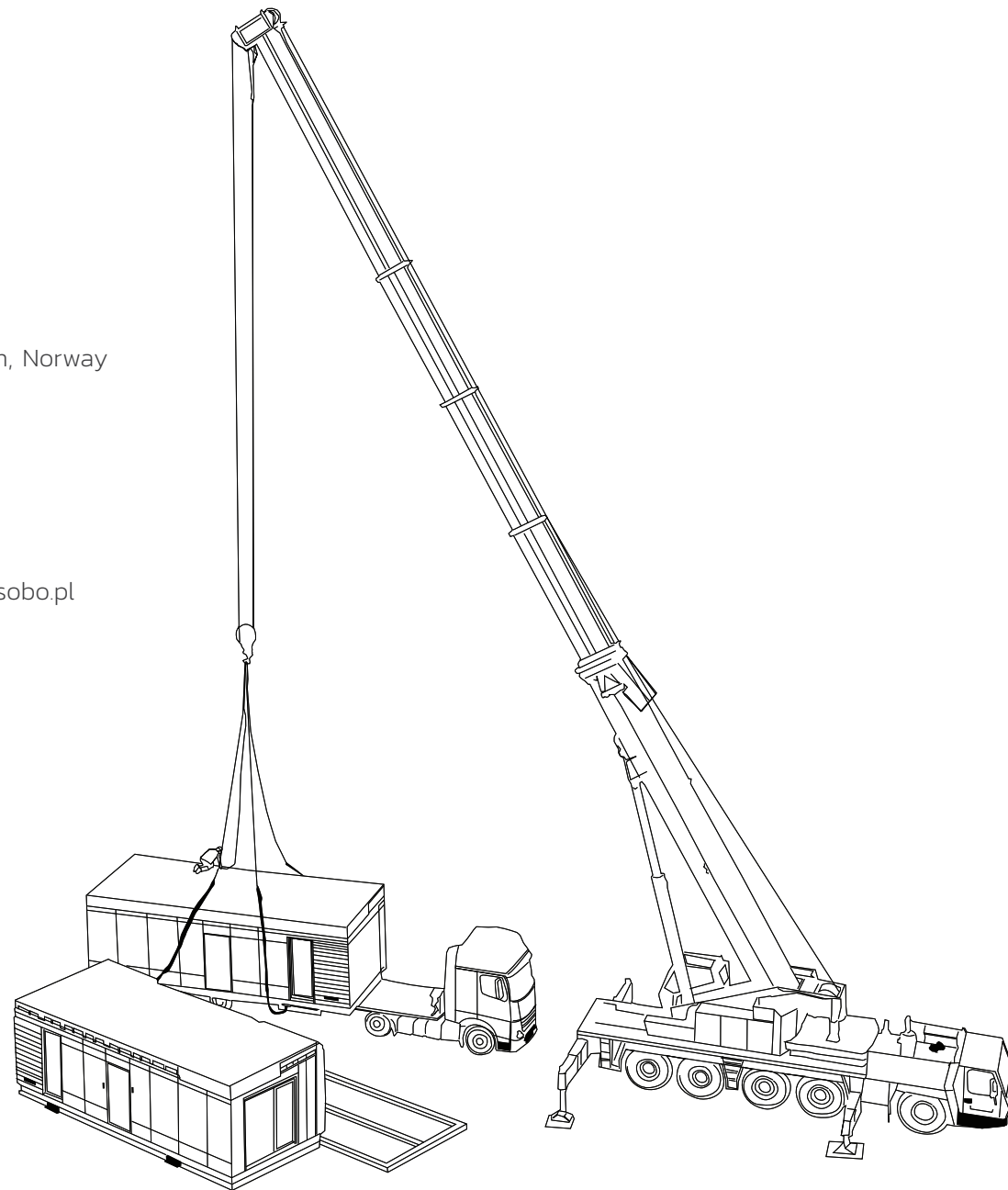
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Layout, DTP and printing:

SOBO Paweł Sobolewski, +48 604 084 446, [biuro@sobo.pl](mailto:biuro@sobo.pl)

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Kaldnes, Tønsberg, Norway



Heimdalsporten Apartments, Trondheim, Norway



*With more than a decade of experience, having completed about our company, Unihouse SA, is today a major manufacturer of modular buildings. Our business partners help us deliver modules to many European countries.*

*Unihouse is part of the Unibep SA Capital Group, which has been on the market for **over 70 years**. We are one of the largest construction companies in Poland.*

*Unihouse is not just a manufacturer of wooden modules, but a general contractor for multi-storey **buildings such as hotels, dormitories and apartment buildings**. We handle projects comprehensively – we design, manufacture and build in line with the visions of our Customers.*

*Unihouse's wooden modules are mainly made of natural, environmentally neutral materials. These modules ensure safety and high comfort of use..*

The Team of Unihouse SA



We build with passion



**7.2 ha**  
factory area

**19 000 m<sup>2</sup>**  
production area

**2 000 modules**  
factory capacity per year

Unihouse Factory of Modular Buildings, Bielsk Podlaski, Poland



Within **the Unibep Group**, together with **Unibep SA**, we are **one of the largest construction companies in Poland**, and have been listed on the Warsaw Stock Exchange since 2008. We benefit from the Group's support and vast experience of **over 70 years**.

*Unibep SA is the general contractor on the national and foreign markets. It also operates in the road and bridge infrastructure segment, and through **Unidevelopment SA**, it is a developer on the Warsaw, Tricity, Poznań and Radom markets.*



Construction full of innovation



**2009**

Construction of the Unihouse modular house factory

Total production area: 4,700 m<sup>2</sup>

**2010**

Handover of the first project into operation  
Brundalsgrenda, Trondheim, Norway

**2011**

Obtaining the Norwegian Central Licence issued by the National Technical and Construction Department (DiBK) in Oslo.

**2012**

The signing of the largest contract to date  
Bjørnåsen Syd, Oslo, Norway  
158 apartments

**2014**

Handing of the first 5-storey building into operation  
Skaregata, Ålesund, Norway

**2014**

Expansion of the factory  
Total production area: 9,000 m<sup>2</sup>

**2015**

Commencement of first development project on the Norwegian market  
Dregsethvegen, Stjørdal, Norway

**2015  
2016**

Construction of the first passive building  
Miljøbyen  
Granåsen, Trondheim, Norway  
54 apartments

**2016**

Completion of the construction of the first 6-storey building  
Tomasjordnes Pir 6 in Tromsø, Norway

**2016**

Conclusion of a contract with Cramo on the sale and delivery of modular-technology facilities to the European market

**2016**

Extension of the production building for fabrication of Cramo modules

**2016**

Obtaining the European Technical Approval for Unihouse panel and modular products

**2017**

Obtaining the ISO 14001 environmental certification for the production of wooden and wooden-steel modules

**2018**

Completion of the first contract on the Swedish market  
Kantorn 2, Tumba, Sweden

**2018**

Expansion of the factory  
Total production area: 19,000 m<sup>2</sup>

**2019**

Completion of the first leisure complex on the Polish market, Suntago Village Park of Poland, Poland

**2020**

Construction of the first 8-storey building, HeimdalsPorten in Norway

**2021**

The first contract in Poland in the Public-Private Partnership formula with the commune of Matkonia Górna

**2021**

Entering the German market

# Map of projects

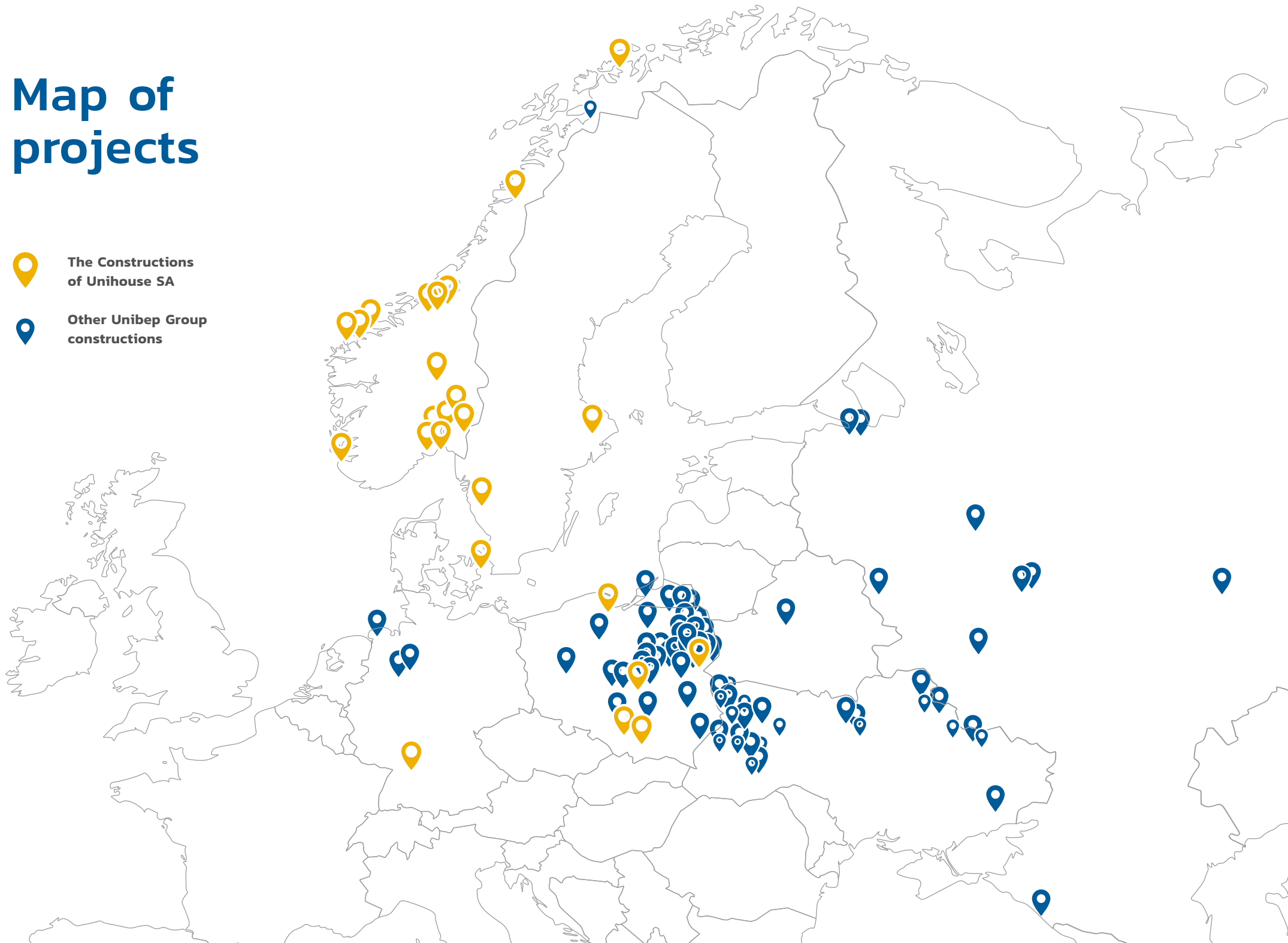


**The Constructions of Unihouse SA**



**Other Unibep Group constructions**

10





**4,716**

**flats and premises built by  
Unihouse SA with modular  
technology**

state in 2022

**26,017**

**flats and premises built together  
by Unibep Group**

state in 2022



Construction without borders



Tomasjordnes Pår 6 in Tromsø, Norway

# The potential of Unihouse modular construction



**Multifamily buildings**



**Hotels**



**Dormitories**



**Nursing homes**



**Residential developments**



**High-end apartments in compact development**



**Kindergartens**



**Clinics**

Unihouse modular buildings are up to twice as light as traditional buildings, allowing them to be moved from place to place and dismantled and reassembled when necessary. Finished structures can also be easily enlarged by adding more modules, developing a new architectural form. We construct our projects on various types of soil (rocky, sandy, waterlogged), also on embankments, and even on the roof of an existing building.

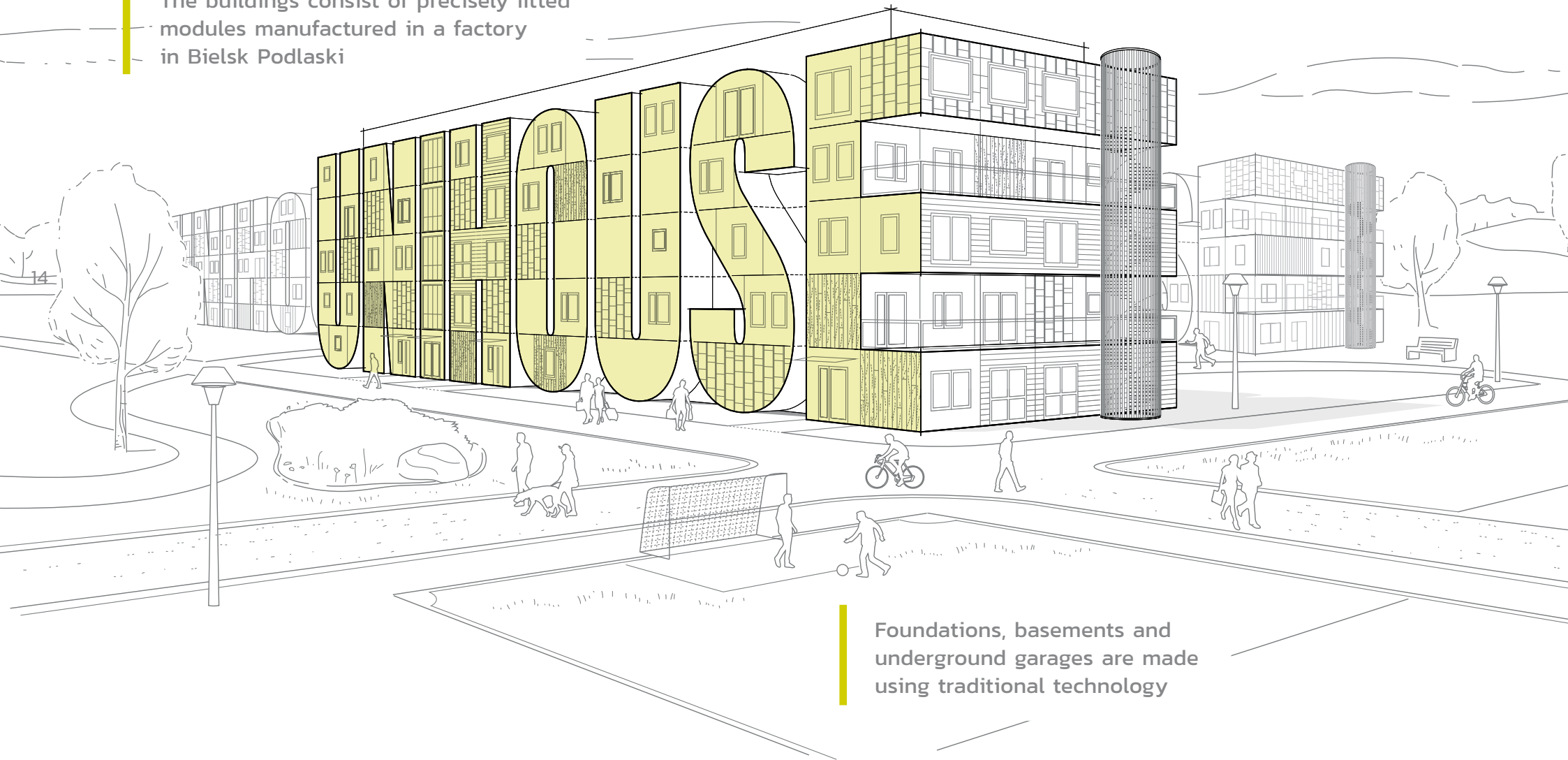


Multi-purpose construction

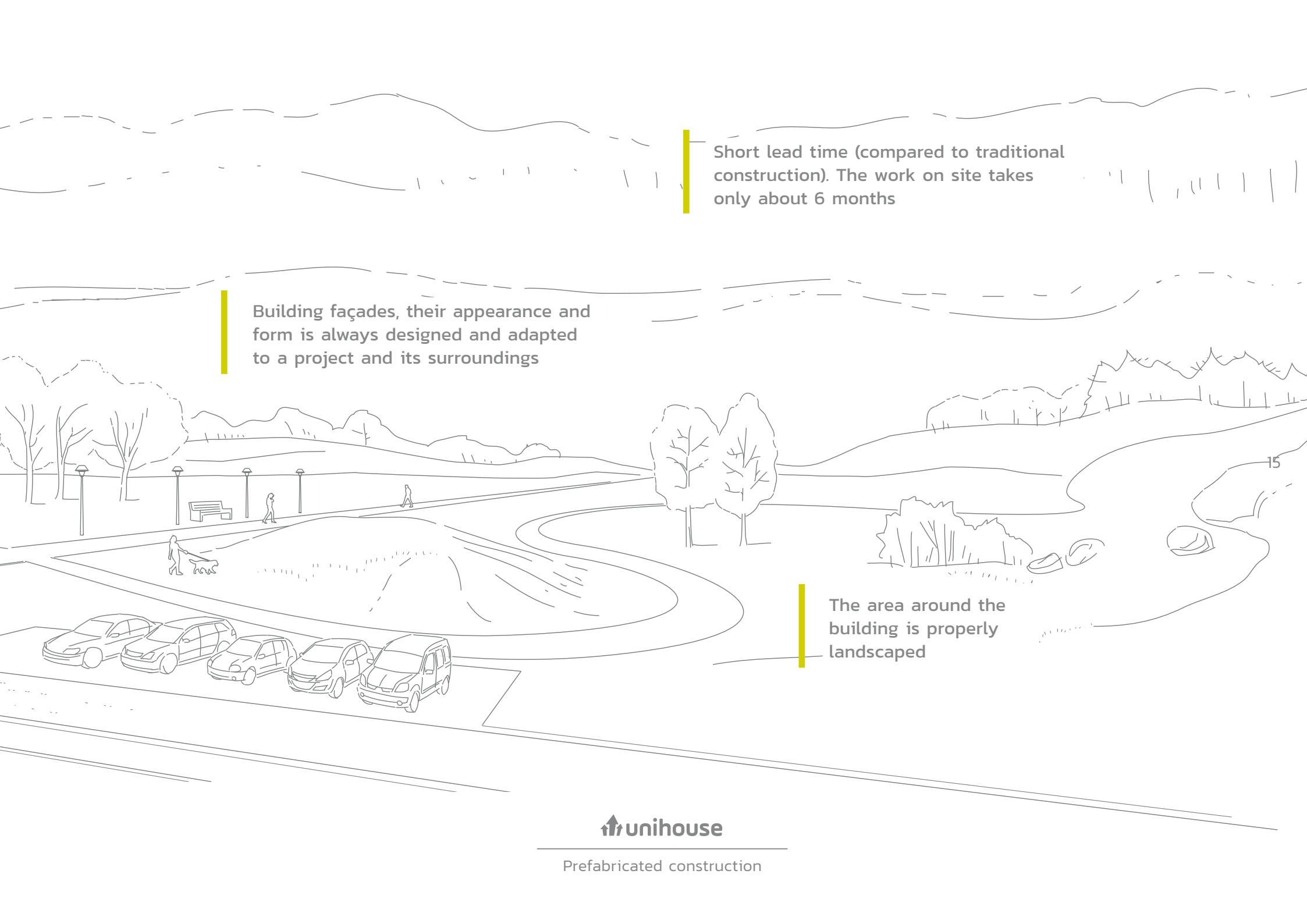
# Comprehensive. Outside and inside

The buildings consist of precisely fitted modules manufactured in a factory in Bielsk Podlaski

Once the façade has been completed, the individual modules become invisible



Foundations, basements and underground garages are made using traditional technology



Short lead time (compared to traditional construction). The work on site takes only about 6 months

Building façades, their appearance and form is always designed and adapted to a project and its surroundings

The area around the building is properly landscaped



Vestbyen, Jessheim, Norway



# Advantages

1



Construction time, depending on the size of a project, is only about 3-6 months

2



The energy-efficient manufacturing process and low energy demand mean lower environmental and operating costs

3



Unihouse designs, manufactures and delivers **turnkey buildings**

4



Modular construction means the easy expansion and the ability to move facilities from place to place

5



Moving most of the work to the factory ensures repeatable manufacturing regardless of the weather

6



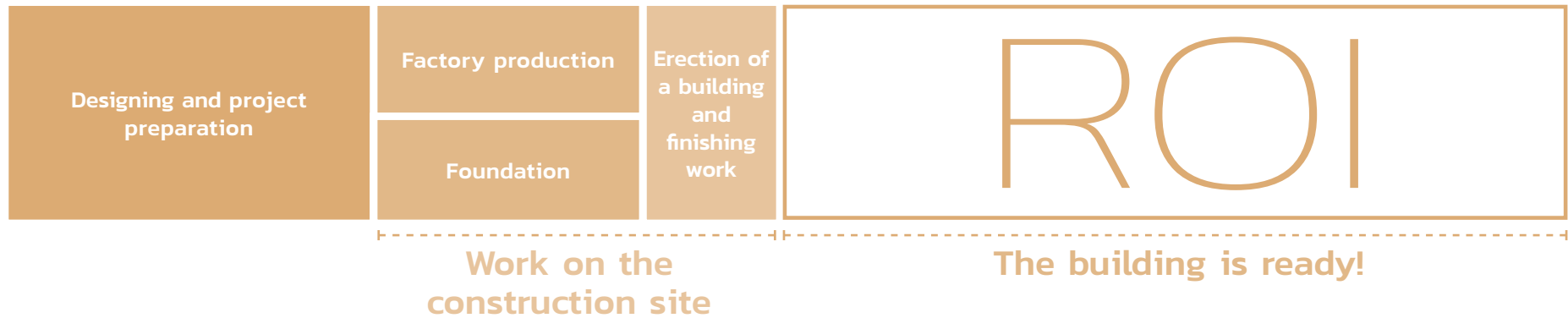
Wooden modules are manufactured with high precision under strict quality control



SWSG Stuttgart, Germany



### Modular constructions (duration of construction)



### Traditional construction





Heimdalsporten apartments, Trondheim, Norway

# Characteristics of prefabricated natural construction

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High user  
comfort



Favourable  
microclimate



Positive effects  
on health



Durability for  
generations



Speed of  
construction



Lightweight  
design



Fire  
protection



Expandable  
system

## Stages of construction

22



1

### Designing with BIM

Using Unihouse's catalogue of BIM product solutions, engineers and designers start designing from our solutions. At this stage, the needs of the project owner and future users are taken into account.

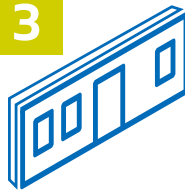
4



### Assembling the modules

After the floors, walls and ceilings have been manufactured separately, the module is assembled. This is done in accordance with the detailed design for each module, which is part of a larger whole. Many specialised technicians install the necessary systems: electrical, ventilation, heating, radiators, doors, windows and other necessary equipment.

3



### Manufacturing of walls

In most cases it is an automatic process, where wooden elements are cut according to the design, then on a special production "table" they are nailed together, subsequent layers of walls are assembled according to the design, and holes for systems are also cut out. The inside of the walls is filled with mineral wool in line with acoustic and fire requirements.

2



### Manufacture of floors and ceilings

All systems necessary for the daily use of an apartment are immediately installed inside the floors and ceilings.

5



## Finishing works

Once all the services are assembled, it's time for the finishing work. Walls and ceilings are painted and glazed tiling is laid. Parquet floor and terracotta are laid. The finish is according to the client's order and possible changes to be made by future tenants.

6



## Assembly of kitchen furniture, bathroom fittings

The modules are fully equipped with kitchen furniture and household appliances. The customer can choose a set and colour of kitchen furniture and bathroom fittings - shower cabins, washbasins, glazed tiles, terracotta and other equipment.

7



## Transport of finished modules

Assembled, finished and equipped modules are transported by truck and, if necessary, by ship to the construction site.

9



## Final result

Modules are assembled and buildings are "turnkey" ready.

8



## Assembly of modules on the construction site

When the modules arrive at the construction site, they are directly assembled, one on top of the other, with the use of a crane and then joined together to form the building structure.



"Signaturhagen" in Kongsberg, Norway





## We promote evolution. Always

*We monitor all elements of technology, ensuring that the modules meet European standards, not only construction but also environmental standards. We construct passive buildings and conduct research that will result in our own zero-energy construction technology.*

The Team of Unihouse SA



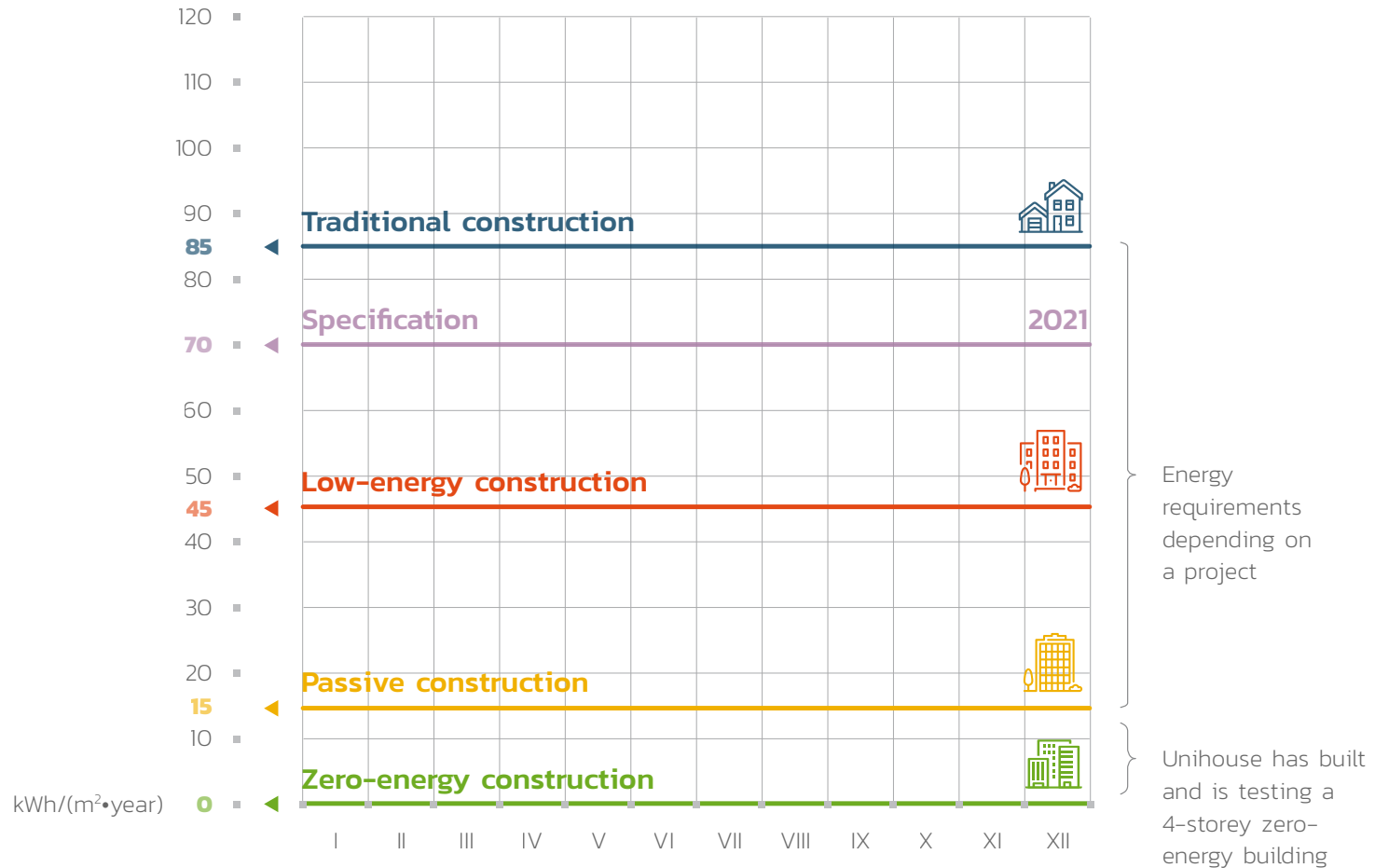
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Highest quality construction



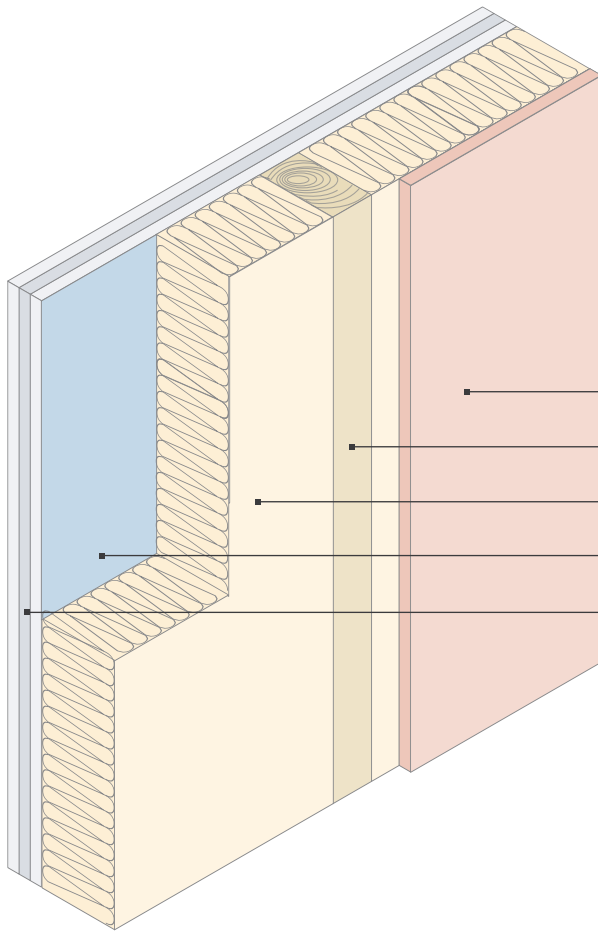
Miljøbyen Granåsen, Trondheim, Norway – passive construction

# Energy requirements for residential buildings





Persaunet dormitories, Trondheim, Norway



## Fire resistance classification: REI 90

as per PN-EN 13501-2+a1:2010

External structural panel

C24 Timber

Mineral wool

Vapour barrier

3 layers of internal fire protection boards

Wooden load-bearing wall, filled with mineral wool with a cladding of external structural boards and internal fire-proofing boards - functioning as separations in case of fire.

 <sup>®</sup> jakość w budownictwie  
Instytut Techniki Budowlanej



Energiparken, Melhus, Norway

# Finishing standard

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## 1 Façade

The outer façade of the building is made with lining boards of overlapping, rough fir tree panels arranged horizontally, and fibre cement cladding panels with 8 mm thickness, unpainted (natural colour).

## 2 Access decks, balconies and terraces

Balconies and terraces sitting on the ground are made with decking planks, e.g. of pressure-impregnated pine wood.

Access decks, balconies and terraces supported by columns are finished with fibre cement cladding panels with 10 mm thickness; access decks and terraces are finished with pavement tiles while balconies are finished with pressure-impregnated pine wood decking planks. Additionally, water insulation is used.

The supporting structure of the exterior balustrades is made of galvanised steel, the shafts are made from galvanised metal bars, while the handrails are made of galvanised steel.

At the Customer's request, access decks, balconies and terraces can be sheltered.

## 3 Doors

Entrance doors Rw 40 dB are made of wood, with double-sided white coating. Silver coloured handles and fittings.

Interior doors are of ribless wooden construction, plain solid white colour, with three-way adjustable hinges. Interior and wardrobe doors are fitted with a lock, while the bathroom doors have a privacy lock. Silver coloured handles and fittings. Optionally, sliding doors can be mounted.

At the Customer's request, doors to staircases, private storage areas, garages and other utility rooms in the basement can be installed.

## 4 Windows

PVC windows and PVC balcony windows are made with 5-chamber profiles of heat transfer coefficient not higher than  $U = 1.1 \text{ W/m}^2\text{K}$ . Silver coloured handles with a locking button to prevent opening.

At the Customer's request, terrace sliding doors can be mounted.



Example interior of an apartment built of modules



## 5 Kitchen

The kitchen is fitted with acrylic panels furniture. The cupboard and drawer hinges have a silent system for soft closing.

The kitchen appliances include a 4-zone ceramic cooktop, electric stove, refrigerator-freezer and dishwasher. Silver coloured sink tap. Steel drop-in sink in the countertop.

## 6 Systems

The apartments are fitted with ventilation, electrical, lighting, water, sewage, heating, phone wiring and fire protection systems.

If no water central heating is present, electric underfloor heating (mats) is installed in bathrooms and vestibules. All other rooms are fitted with electrical heating based on wall-mounted or standalone electrical radiators.

## 7 Bathroom

Bathrooms are typically fitted with a wall-mounted mirror with integrated lighting, bathroom cabinet with a ceramic washbasin and a countertop, a no-profile corner shower cabin and a ceramic toilet pan. Silver coloured bathroom taps.

## 8 Floor

Floors are covered with MDF panels with 7 mm thickness, triple-layered, with oak texture and of ac4 abrasion class. Skirting boards have a colour similar to that of the floor, 59 mm in height. There is a choice of other panels.

Glazed matt grey stoneware is used in sanitary rooms and graphite/black in the entrance to the apartment.

## 9 Walls

In kitchens, paint coating or ceramic tiles are used in the area between the countertop and the lower end of the hanging cupboards.

In sanitary spaces, waterproofed walls are covered with ceramic tiles.

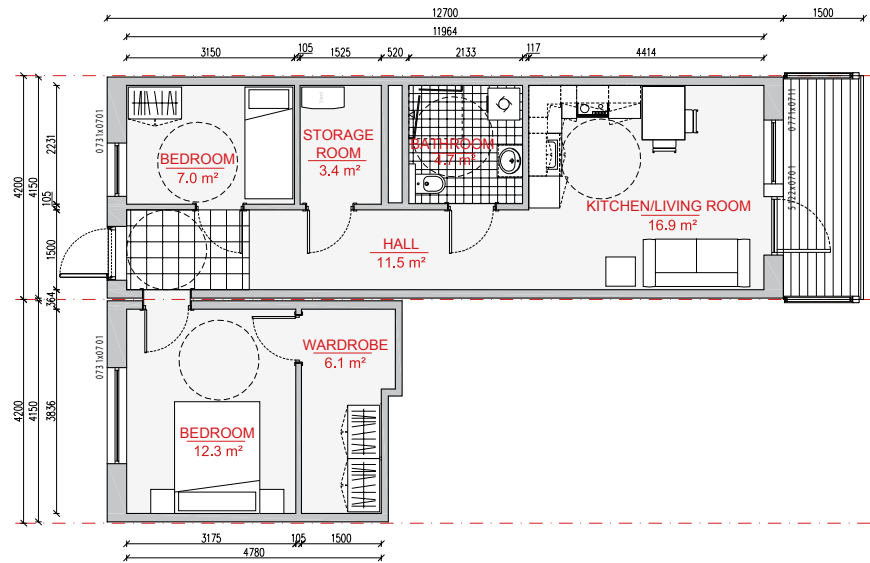
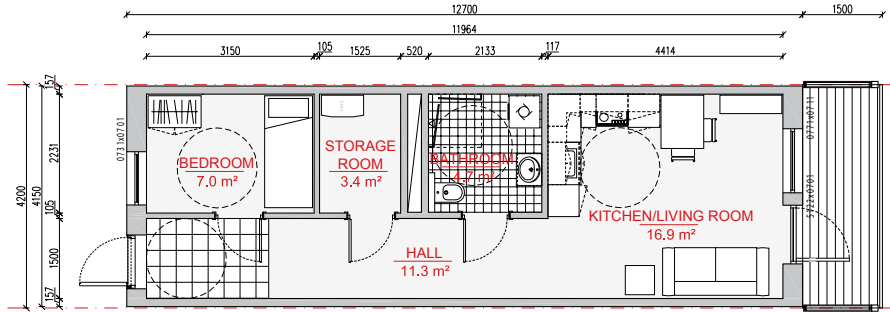
## 10 Ceilings

Depending on the project, ceilings are painted twice with white water-based acrylic paint and equipped with lighting and sprinkler systems.

## 11 Optional equipment

At the Customer's request, we manufacture furniture, free-standing and built-in wardrobes, white goods, different types of floors, floor heating, air conditioning, roller-blinds and roller shutters, various types of façade cladding or other elements of equipment or finish as requested.

## Layout of rooms



## Layout of apartments

C87	C96	C96	A46	C94		
C87	A46	A46	B67	B74	C94	
C87	A46	A46	A46	A46	A46	C94
C87	A46	A46	A46	A46	A46	C94

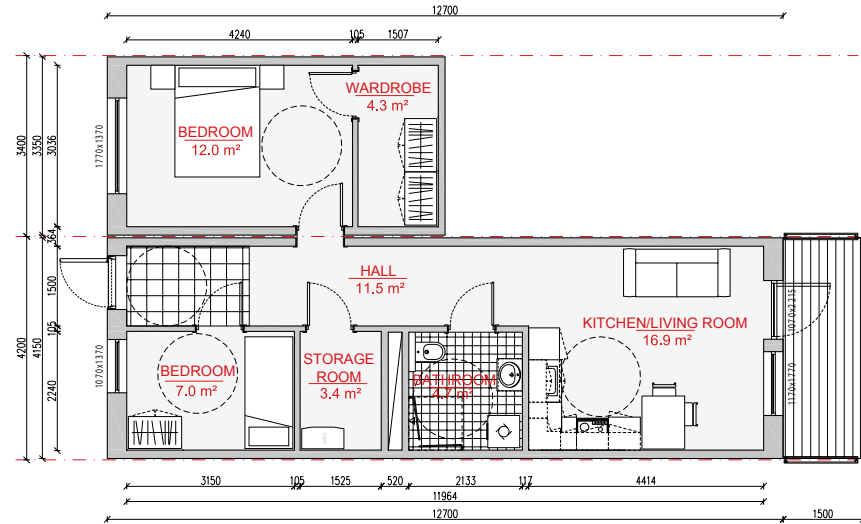
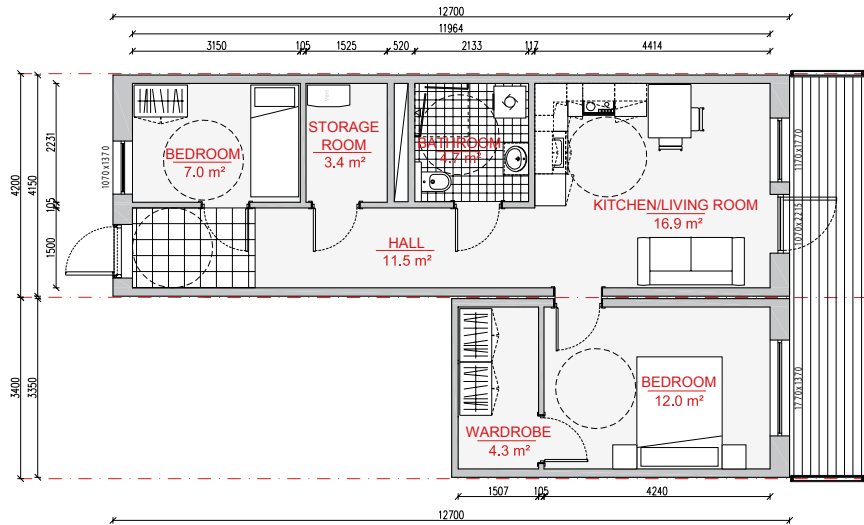
High-end apartment  
**A46**  
 46 m<sup>2</sup>  
 1 bedroom  
 1 bathroom

## Layout of apartments

C87	C96	C96	A46	C94		
C87	A46	A46	B67	B74	C94	
C87	A46	A46	A46	A46	A46	C94
C87	A46	A46	A46	A46	A46	C94

High-end apartment  
**B67**  
 67 m<sup>2</sup>  
 2 bedrooms  
 1 bathroom

## Layout of rooms



## Layout of apartments

C87	C96	C96	A46	C94		
C87	A46	A46	B67	B74	C94	
C87	A46	A46	A46	A46	A46	C94
C87	A46	A46	A46	A46	A46	C94

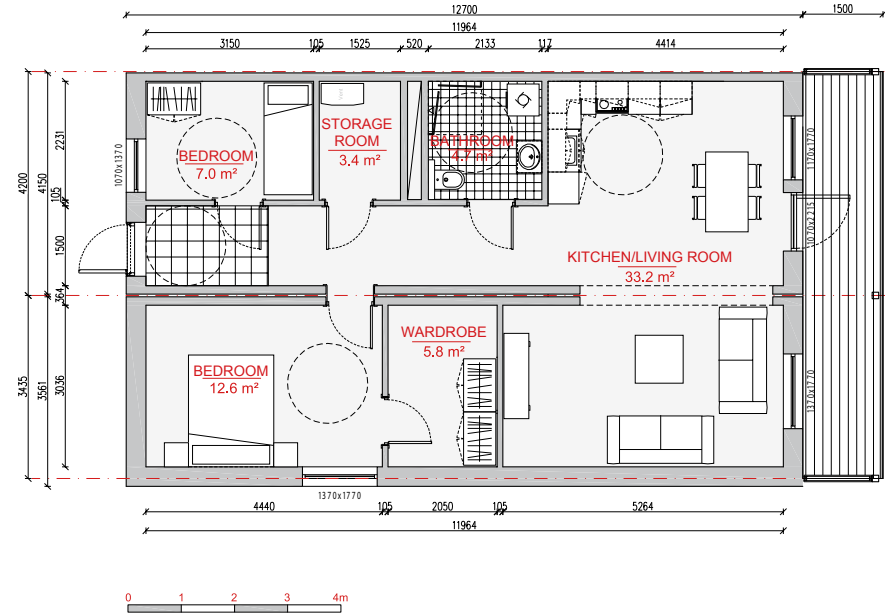
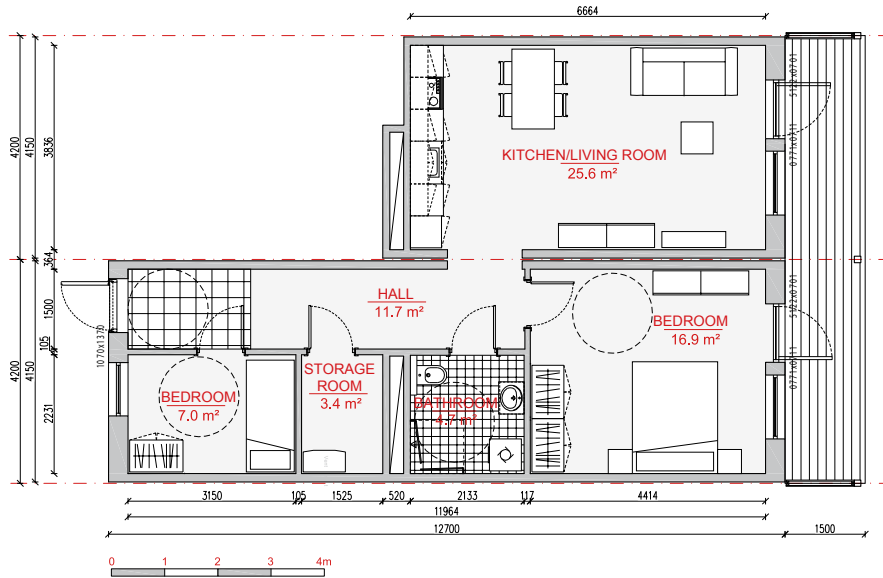
High-end apartment  
**B67L**  
67 m<sup>2</sup>  
2 bedrooms  
1 bathroom

## Layout of apartments

C87	C96	C96	A46	C94		
C87	A46	A46	B67	B74	C94	
C87	A46	A46	A46	A46	A46	C94
C87	A46	A46	A46	A46	A46	C94

High-end apartment  
**B67R**  
67 m<sup>2</sup>  
2 bedrooms  
1 bathroom

# Layout of rooms



## Layout of apartments

C87	C96	C96	A46	C94		
C87	A46	A46	B67	B74	C94	
C87	A46	A46	A46	A46	A46	C94
C87	A46	A46	A46	A46	A46	C94

High-end apartment  
**B74**  
74 m<sup>2</sup>  
2 bedrooms  
1 bathroom

## Layout of apartments

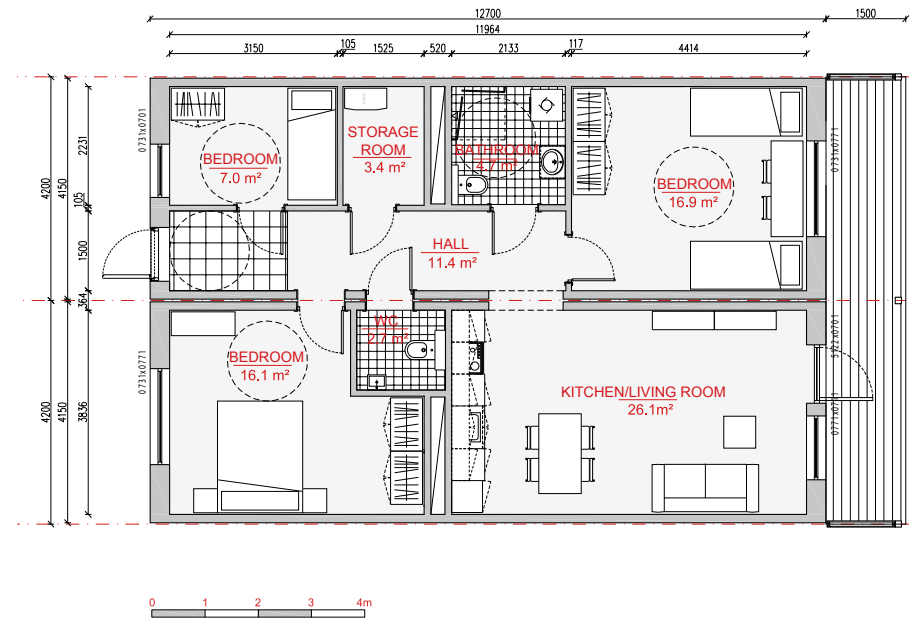
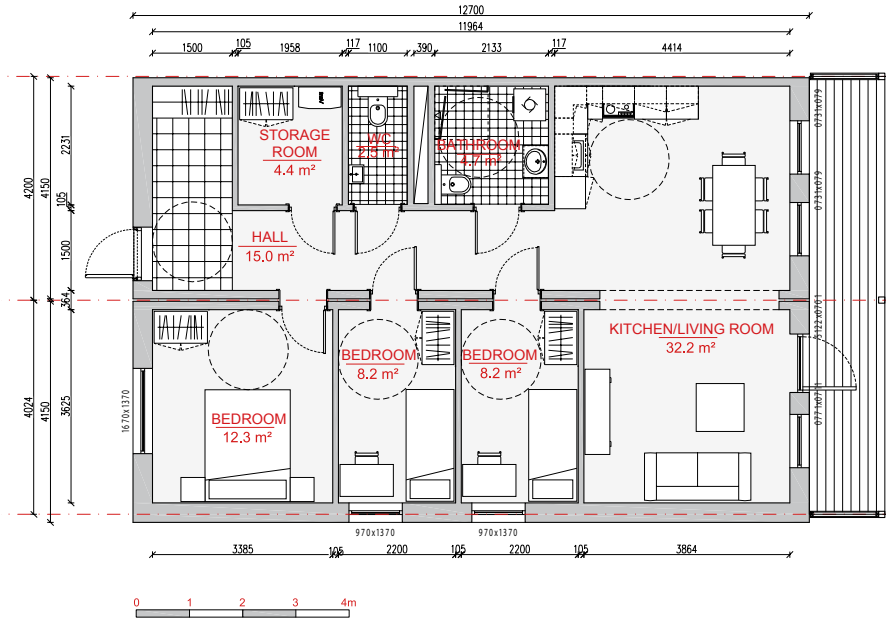
C87	C96	C96	A46	C94		
C87	A46	A46	B67	B74	C94	
C87	A46	A46	A46	A46	A46	C94
C87	A46	A46	A46	A46	A46	C94

High-end apartment  
**C87**  
87 m<sup>2</sup>  
2 bedrooms  
1 bathroom



Modular constructions

## Layout of rooms



## Layout of apartments

C87	C96	C96	A46	C94		
C87	A46	A46	B67	B74	C94	
C87	A46	A46	A46	A46	A46	C94
C87	A46	A46	A46	A46	A46	C94

High-end apartment  
**C94**  
94 m<sup>2</sup>  
3 bedrooms  
2 bathrooms

## Layout of apartments

C87	C96	C96	A46	C94		
C87	A46	A46	B67	B74	C94	
C87	A46	A46	A46	A46	A46	C94
C87	A46	A46	A46	A46	A46	C94

High-end apartment  
**C96**  
96 m<sup>2</sup>  
3 bedrooms  
2 bathrooms



Suntago Village in Park of Poland, Wręcza, Poland





Suntago Village in Park of Poland, Wrocław, Poland



## SELVAAG BOLIG

*We recommend Unihouse as a reliable partner who provides its services professionally and with due diligence. The cooperation so far allows us to see Unihouse as a partner who takes his obligations towards the customer seriously.*

**Terje Svevad, Service Manager**  
Bjørnåsen Syd, Oslo, Norway.



*The contracted work was delivered on time and to high quality standards.*

*The contractor also complies with very high professional job safety standards. Given the current cooperation with the General Contractor and high quality of work, we recommend Unihouse, the Branch of Unibep SA as a reliable partner with professional, highly qualified staff.*

**Anders Skaget, Project Leader**

Miljøbyen Granåsen, Trondheim, Norway.



## RETT HJEM

*We fully recommend Unihouse. We feel that the service department has kept pace with us in positive cooperation. As a construction company, we can be proud of the product we receive.*

**Stig Mæhle, Service Manager**

Stokkan Nedre, Trondheim, Norway.







*We are pleased to say that the works have been carried out with due diligence and in line with the good building practice and properly completed. We recommend the general contractor, Unihouse SA, as a reliable partner with a professional, experienced team of highly qualified, communicative and cultured employees.*

**Aleksandra Krzywosz, Chairman of the Management Board**

Gdańska Infrastruktura Społeczna Sp. z o.o.  
– Childcare and Education Institutions at  
ul. Malczewskiego and ul. Cienista, Gdańsk,  
Poland.



*In just a few months Unihouse delivered 92 complete modular houses manufactured on schedule and as per the project owner's design and guidelines.*

**Jakub Bielecki, Project Manager**

Park of Poland – SUTAGO Village  
project: 92 detached modular  
holiday high-end apartments,  
Wręcza, Poland.



*The warranty period under the contract expires this year. I confirm that the work carried out was completed on time, ensuring quality and at the agreed price.*

*The warranty work was performed with due diligence. I am pleased with the delivery of the contract by Unihouse. Unihouse is a professional, experienced and recommendable company.*

**Alfreda Perczak, Owner**

Hotel Iskra – hotel building of modular wooden structure, Międzyzice, Poland.





EnergiParken, Melhus, Norway

# Certificates and approvals



European Technical Approval  
ETA-15/0241

European Technical Approval



ISO 14001:2015 Environmental Management System Certificate



ISO 9001:2015 Quality Management System Certificate



ISO 45001 OSH Management System Certificate



Association of prefabricated building manufacturers



BOLIGPRODUSENTENE

Norwegian Association of Housing Manufacturers



Norwegian Central Certification of Construction Qualifications



Norwegian Technical Approvals



Mark of compliance with German technical requirements for prefabricated timber-frame house elements



German quality seal for prefabricated elements of timber-frame houses



Highest quality construction



Architect Tomasz Perkowski

## We watch over a project at every stage of construction

*At the design stage, based on Sintef and ETA technical approvals, we implement solutions tailored to the needs of the project and the Project Owner. For production and construction to be carried out in a short time and at the highest level, every detail must be worked out thoroughly and well in advance.*



**prof. dr hab. eng. Czesław Miedziałowski**  
Białystok University of Technology

## Lightweight and green construction

*Wood is a natural, green material that favourably influences thermal and acoustic parameters of building partitions (walls, ceilings, roof) and the comfort of buildings, such as microclimate and functional safety. The cumulative energy intensity of wood compares very favourably to concrete and steel.*

*A great advantage of wooden structures is their lightness, which contributes to a reduction in the size of the structure, e.g. foundations, and their prefabrication, i.e. making items at a factory and transporting them to a construction site to be rapidly assembled there.*

*In addition, wooden buildings are easy to remodel and upgrade and can be easily demolished and disposed of.*



**dr eng. Paweł Sulik**  
The Department for Fire Testing  
of the Construction Technology Institute

## Builders' decathlon

*At present, the most coherent answer to these challenges is the use of green, reproducible materials (e.g. wood), an industrialized way of production in factories, ensuring repeatability and appropriate quality regardless of weather conditions, and the use of materials in such a way as to compensate for the shortcomings of a solution and highlight its advantages. Such solutions are modern, light, durable, warm, friendly, modular, timber-frame structures, which are fire safe, which was confirmed by the NZP-124 experiment in Pionki.*



**dr eng. Jerzy Ickiewicz**  
Białystok University of Technology

## Silence, like noise, is part of our lives

*Caring for a building's acoustic parameters begins at the engineering design stage. This is a prerequisite for obtaining appropriate acoustic conditions that affect the daily use of the premises by the residents.*

*Noise level surveys of Unihouse modules are conducted regularly. It is extremely important in taking care of the comfort of future residents of buildings constructed by the company from Bielsk Podlaski.*



**Eng. Wojciech Podraszka**  
Fire protection expert

## Safety. Without it, all other things are meaningless

*The use of wooden structures in public utility buildings, as well as in nurseries and kindergartens is not a problem from the point of view of fire protection. The wooden elements are able to maintain the required load capacity, resulting from the fire resistance class of the designed building.*





**dr. eng. Krzysztof Czech**  
Białystok University of Technology

## Convenience and durability

*Wood has significantly higher vibration damping than any other common building material used in construction. As a result, vibrations transmitted to constructions made of wood are dampened much faster, which has a positive impact not only on the technical condition of the building itself, which is not as susceptible to vibration and damage as classic masonry buildings, but most importantly, it has a positive effect on the required comfort of living in it.*



Nardobakken - Campus Life N4, Trondheim, Norway



Sjusjøen – The View, Ringsaker, Norway







Heimdalsporten Apartments, Trondheim, Norway



#### **Unihouse SA**

ul. Rejonowa 5, 17-100 Bielsk Podlaski, Poland

e-mail: [info@unihouse.pl](mailto:info@unihouse.pl)

telephone: +48 85 730 34 77

fax: +48 85 730 34 78

[www.unihouse.pl](http://www.unihouse.pl)





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