



# MODULAR ARCHITECTURE & DESIGN



## The History of modular constructions

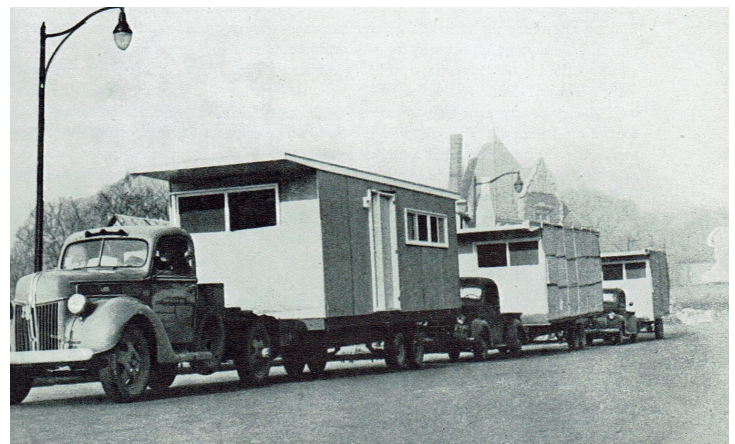
Modular constructions have a fascinating history, evolving from temporary solutions to viable and sustainable alternatives for housing and commercial buildings. Although the concept of prefabricated construction has existed for centuries, the real development of modern modular constructions began in the 19th century and experienced significant growth in the 20th century.

### Early Forms of prefabricated constructions

The first examples of modular constructions can be traced back to the 17th century when European settlers began transporting prefabricated houses to the New World. A notable example is a wooden house shipped from England to Australia in the 1830s, considered one of the first documented prefabricated structures.

### The Industrial Revolution and the First Prefabricated Houses

During the Industrial Revolution, mass production enabled the development of prefabricated housing on a larger scale. In the 19th century, builders began creating standardized components that could be transported and assembled quickly. A famous example is the "balloon frame" house, widely used in the United States to facilitate westward expansion.





### The Modern Era and the rise of modular constructions

After World War II, modular constructions became a crucial solution for addressing the housing crisis. Governments worldwide adopted this technology to quickly provide homes and public buildings. In the 1950s and 1960s, the development of new materials and assembly techniques made modular structures increasingly popular.

### Prefabricated housing in Europe

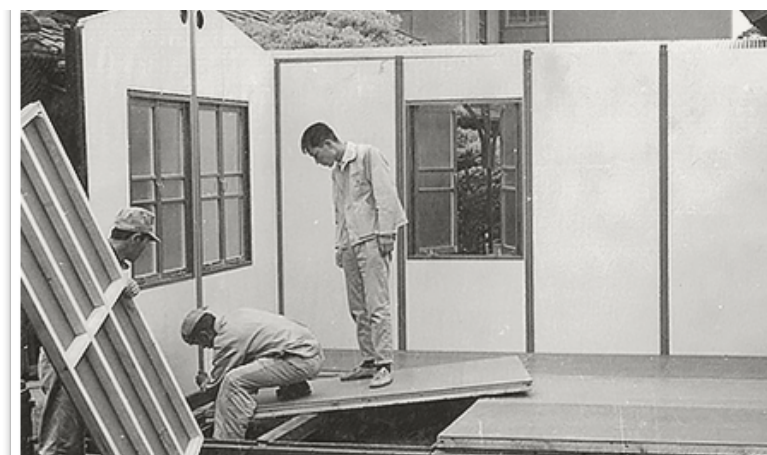
Meanwhile, in Europe, architects and engineers began experimenting with prefabricated constructions to meet the growing demand for affordable housing. Projects such as the steel prefabricated houses developed by French engineer Jean Prouvé in the 1920s demonstrated the viability of this concept.

### Houses transported across oceans

In the 17th and 18th centuries, with the expansion of European colonies, the first transportable prefabricated houses were developed. A notable example is a wooden house shipped from England to Australia in the 1830s, one of the first documented structures to use prefabricated elements. These houses were designed to be easily transported and assembled in remote locations, providing quick housing solutions for settlers.

### Modular constructions in the 21st Century

Today, modular constructions are no longer just a temporary solution but a viable and premium alternative for housing, offices, and commercial buildings. Modern technology has enabled the creation of sophisticated, energy-efficient, and sustainable structures, integrating eco-friendly materials and smart systems.





Modular constructions are widely used for hotels. In 2020, Marriott built the tallest modular hotel, a 60-story structure in New York.

Marriott, which has the largest portfolio of hotels under development in North America, began exploring modular construction in 2014 to address the increasing time required to complete hotels due to the construction boom and labor shortages. Since 2011, the average construction and opening time for a Marriott hotel in North America has increased by up to 50%, depending on the location and size of the property.

Since 2015, Marriott has been educating owners, franchisees, architects, financiers, and other partners about the benefits of modular construction through informational sessions, factory tours, and demonstrations. Additionally, it has collaborated with module manufacturers to help them understand the demand within the hospitality industry.



Although speed and cost were the primary reasons Marriott adopted modular construction techniques, this approach offers multiple benefits. Producing modules in controlled environments significantly improves construction quality. Regardless of weather conditions, on-site changes, or the position of each module within the building, all rooms are delivered to a consistently high and uniform standard.

## AB glamping innovations

Modular Architecture & Design.

NZEB Certified

### Choosing us means choosing sustainability

**Reduced carbon footprint:** Traditional construction methods often involve significant transportation of materials to the site, leading to increased carbon emissions. In contrast, our modular construction approach significantly minimizes this impact.

We reduce transportation requirements by manufacturing and assembling components off-site. This process lowers greenhouse gas emissions and contributes to the fight against climate change.

The construction industry is responsible for 11% of global carbon emissions (Finance and Commerce, 2023). Carbon emissions from conventional construction amount to 400 kg CO<sub>2</sub> equivalent per square meter.

Studies have shown that modular construction can reduce carbon emissions by up to 50% compared to traditional building methods. This reduction is achieved through lower material waste, minimized transportation, and optimized on-site energy use.

At [AB glamping innovations](#) our estimated carbon footprint is 161 kg CO<sub>2</sub> equivalent per square meter, significantly lower than conventional construction.





**Recyclable and Reusable Materials:** sustainability is at the core of our material selection process. We prioritize the use of recyclable and reusable materials whenever possible, ensuring minimal environmental impact throughout the lifecycle of our constructions.

More than 90% of the materials used in our construction process are either recyclable or reusable, significantly reducing waste sent to landfills compared to traditional construction methods. Additionally, the metal used for our structures can be 100% recycled or repurposed for future projects, further enhancing sustainability and resource efficiency.

**Excellent Insulation:** proper insulation is essential for energy efficiency and reducing heating and cooling demands. Our modular units are equipped with high-quality insulation materials, ensuring optimal thermal performance and year-round comfort for occupants. Modular constructions typically achieve higher thermal performance ratings compared to traditional buildings, leading to up to a 30% reduction in energy consumption for heating and cooling.



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**Autonomous units:** our modular units are designed to be self-sufficient, incorporating features such as photovoltaic panels, energy storage batteries, and heat pumps. These renewable energy solutions enable our constructions to generate their own electricity, store excess energy, and efficiently manage heating and cooling demands.

Units equipped with solar panels and energy storage systems can achieve up to 80% energy self-sufficiency, significantly reducing reliance on non-renewable energy sources and lowering utility costs over time.

**Promoting circular economy practices:** we are committed to minimizing waste and maximizing resource efficiency. Through innovative design and carefully selected materials, we strive to create constructions that are not only durable but also adaptable, ensuring long-term sustainability. By implementing circular economy practices, we can significantly reduce resource consumption and waste generation, contributing to a more environmentally sustainable construction industry.



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Our mobile houses VS. Traditional Construction: A comparative analysis

Aspect	Construcții modulare NOMAAD	Construcții tradiționale
Reduction of carbon emissions	Reduced by up to 50%	High emissions generated by transportation and on-site construction activities
Material sustainability	Over 90% recyclable/reusable materials	Low use of recyclable materials
Circular economy practices	Embraces principles of resource efficiency and waste minimization	Linear material consumption
Self-sufficiency features	Photovoltaic panels, storage batteries, and heat pumps	Often relies exclusively on grid electricity
Insulation quality	High-quality insulating materials	Insulating materials of varying quality
Energy efficiency	Up to 80% self-sufficiency	Higher energy consumption due to lower insulation performance
Construction time	Fast construction due to off-site manufacturing	Long construction time
Waste generation	Minimal waste due to precise production	High waste generation from on-site construction activities





## Turnkey Modular Constructions

### Modules

#### STUDIO

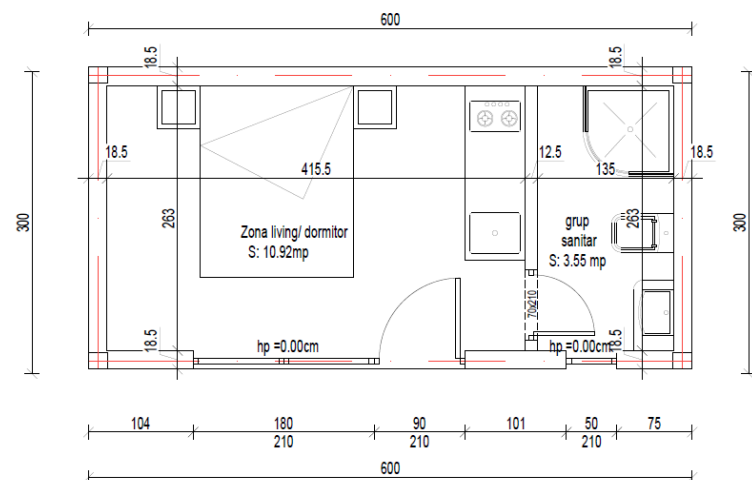
1 BEDROOM | 1 BATH

18 sqm (length: 6m / width: 3m / height: 2.9m).

Studio is ideal for short-term rentals, as well as for showrooms, cafés, and office spaces.



Interior design proposal & space planning



## Turnkey Modular Constructions

### Modules

#### DOUBLE

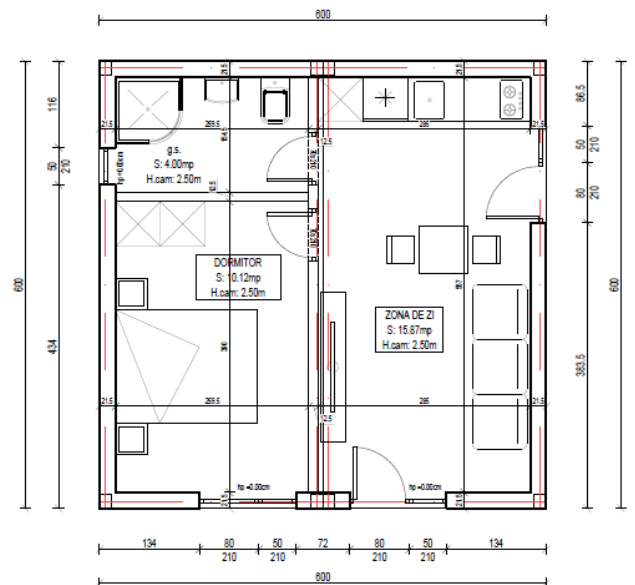
1 BEDROOM | 1 BATHROOM

36 sqm (length: 6m / width: 6m / height: 2.9m).

Double provides the necessary comfort for a permanent home, vacation retreat, or accommodation space.



Interior design proposal & space planning



## Turnkey Modular Constructions

### Modules

#### Single

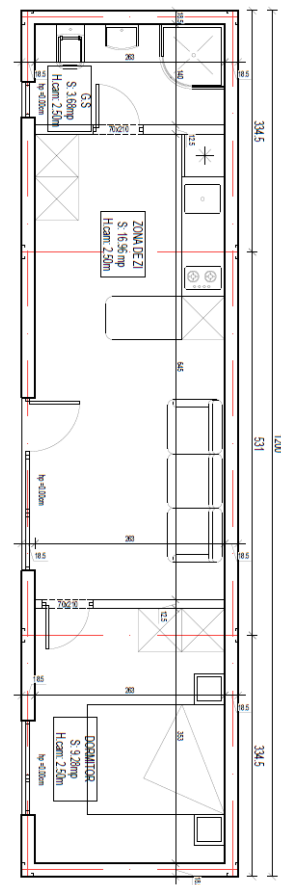
1 BEDROOM | 1 BATH

36 sqm (length: 12m / width: 3m / height: 2.9m).

Single module with one bedroom is perfectly suited for a vacation home, seaside or mountain accommodation, but it can also be a modern solution for various types of businesses.



#### Interior design proposal & space planning



## Turnkey Modular Constructions

### Modules

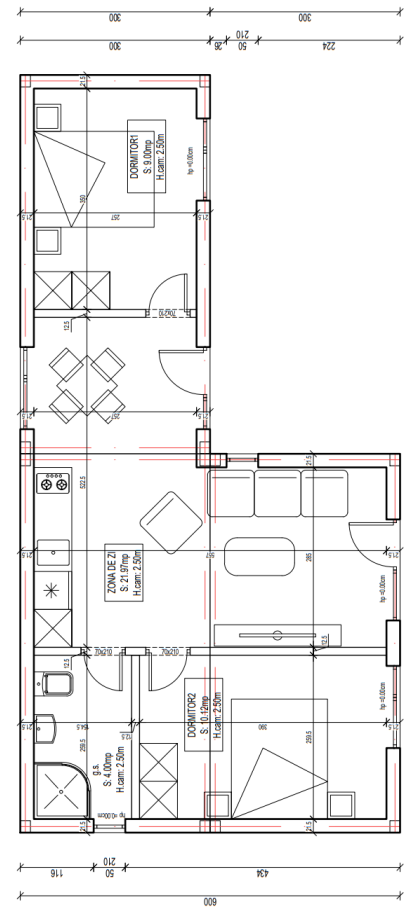
#### Loft

2 BEDROOMS | 1 BATH

54 sqm (length: 12m / width: 6m / height: 2.9m).

Loft with 2 bedrooms and 1 bathroom in an L-shape is a modular construction that is both aesthetic and practical. The 54 sqm area allows for flexible space partitioning according to specific needs.

#### Interior design proposal & space planning



## Turnkey Modular Constructions

### Modules

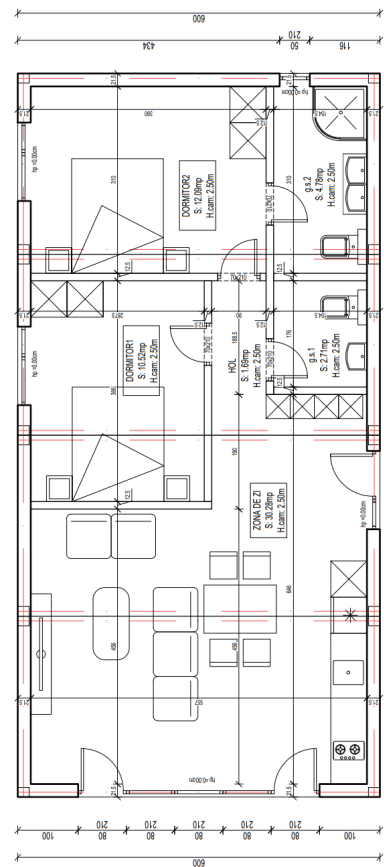
#### Loft +

2 BEDROOMS | 2 BATHROOMS

72 sqm (length: 12m / width: 3m / height: 2.9m).

More space for more memories. Loft+ with 2 bedrooms and 2 bathrooms is the perfect module for family living or a bold business venture.

### Interior design proposal & space planning



Modular constructions with a metal structure are a modern and efficient solution for various types of projects, such as residential homes, commercial buildings, accommodation units, offices, or industrial spaces. This construction technology offers numerous benefits, including fast execution, optimized costs, and flexible design.



## Advantages of modular constructions with a metal structure

### 1. **Fast execution:**

Modules are pre-fabricated in the factory and quickly assembled on-site, significantly reducing construction time.

### 2. **High Structural Strength:**

The metal structure provides durability and resistance to climatic factors, earthquakes, and other external forces.

### 3. **Design flexibility:**

Spaces can be customized and adjusted according to the beneficiary's needs. Modules can be easily expanded or relocated.

### 4. **Energy efficiency:**

High-performance thermal and acoustic insulation solutions can be integrated.

### 5. **Lower costs:**

By optimizing materials and the production process, costs are lower compared to traditional construction methods.

### 6. **Reduced environmental impact:**

Factory prefabrication minimizes construction waste and reduces on-site pollution.

### 7. **Versatility:**

Suitable for single-family homes, hotels, restaurants, industrial halls, or showrooms.



**Common applications:**

- Permanent, vacation & guest houses



**Common applications:**

- Hotels and Airbnb rental units



**Common applications:**

- Showrooms and retail stores



**Common applications:**

- Offices and coworking spaces



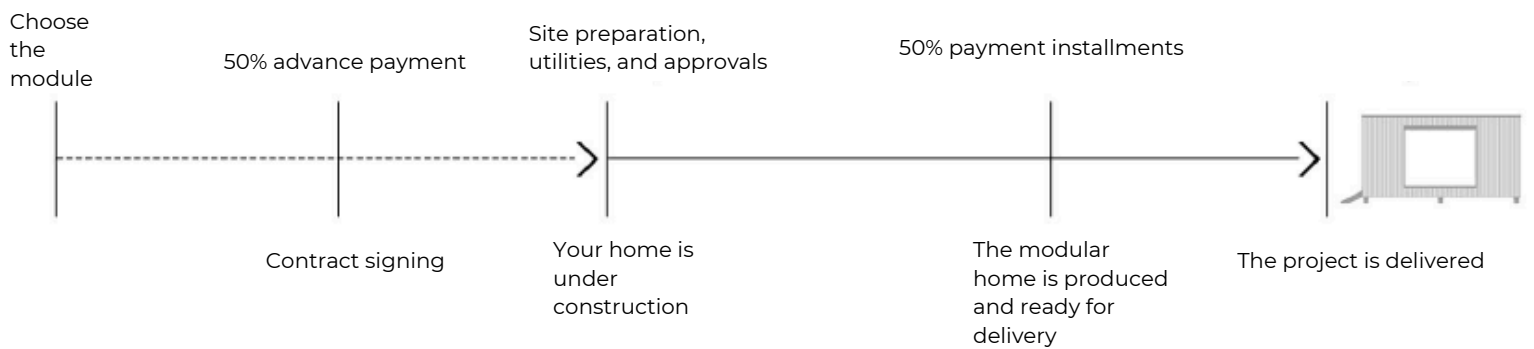
**Common applications:**

- Schools, clinics, and healthcare centers



## Turnkey modular homes

### How we collaborate?



## Turnkey modular homes

### Customized modular constructions with a strong impact on sustainability

Modular is the modern combination of premium quality, innovation, and sustainability. Customize your space according to your specific needs in a passive home truly built for you.

**We believe** in revolutionizing the construction industry by prioritizing sustainability without compromising quality or efficiency.

Our modular construction solutions with metal frames are not only innovative but also eco-friendly. Sustainability is not just a chapter in our story—it is our core. Sustainable development is at the heart of our operations, from raw material sourcing to responsible production and final products.



# MAEB

Glamping innovations



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