

Monocoque Cabin

Catalogue



On earth as it is

The Monocoque Cabin project began during the Covid-19 pandemic, born from a vision to apply architectural principles from the automotive industry to built-environment design. Initially, I faced two significant challenges: lack of funds and no land ownership.

Determined to realize this vision, I didn't let these hurdles deter me. My search for land led to a partnership with a farm in Shropshire, where I agreed to design and build the cabin in exchange for the farm receiving a share of the profits.

At the same time, I was working in an architectural practice, training to become a RIBA and ARB Chartered Architect, while also dedicating my free time to developing the Monocoque Cabin.

An unforeseen and incredible opportunity arose in October 2022. Airbnb launched a global competition to fund 100 unique accommodations, each with \$100,000. With over 200,000 entries, the odds seemed slim. Yet, to my great fortune, Airbnb was captivated by the Cabin's design and selected it as one of the winners, providing the much-needed funding. This was a truly amazing and humbling development, for which I am deeply thankful.

The project has grown from being a prototype to offering people the opportunity to own their own mini-homes. The Cabins are internally bespoke designed to meet the demands of owners, for example, if you are looking for a place to work the structure can be adopted accordingly, or if you are looking for a 2 bedroom holiday home we can adopt the design to that.

The concept of the Monocoque Cabin originated from a fascination with aerospace and automotive construction techniques, known for their efficient use of materials. It led to the question: why not integrate such methods into the built environment?

Monocoques are structural systems in which loads are supported by an object's external skin, creating a stiff, strong, light structure similar to an 'eggshell'. These are structures often used in aerospace and automotive design. The Monocoque Cabin takes inspiration from the WWII de Havilland Mosquito monocoque structure. These fighter planes are the most outstanding examples of monocoque structures.

The Monocoque Cabin is made from various timber materials, carefully chosen to connect with its rural setting. The materials age gracefully and grey over time, after years, you find yourself with a beautiful structure than the one that was first made.

At first sight, the Monocoque Cabin will be an example of organic architecture at peace with its site. Its undulating and ribbed structure creates a highly sculptural form rationalised internally and contextually. The curvilinear form creates cohesive and fluid spaces inside the structure, where walls become ceilings. Internal materials have been carefully considered to convey a sense of warmth and belonging, with furniture integrated within the structure.

My aspiration is to establish a series of Monocoque Cabins throughout the UK. My goal is to offer a unique opportunity for people to immerse themselves in the stunning rural landscapes of the UK like never before. This endeavor aims to highlight the immense value our ecosystems hold for our wellbeing and our very existence on Earth.

I am immensely grateful for the support from everyone who helped us reach this point. Transforming this dream into my life's work has been an extraordinary privilege. I am excited to keep exploring nature's wonders with all of you. Monocoque Cabin embodies a shared vision: a more untamed world where we all find our place within the natural environment.

Peter





Inbalancewithrural England

Experiencing the beauty of nature brings joy and a mystical influence on our lifestyle, thoughts, behaviours, and healing processes.

In our fast-paced, urbanized lives, integrating nature into our daily routine poses a growing challenge.

Yet, there's a widespread, innate desire to reconnect with nature, leading many to seek adventures beyond the UK for holidays and

exploration.

This trend is intriguing, considering the often-overlooked splendours of Rural England.

The Monocoque Cabin exemplifies this union of architecture and nature. Its design and physical presence, along with its occupants, harmonize seamlessly with the rural surroundings. Waking up to nature's morning symphony in such a setting is truly enchanting.

A History

The monocoque structure of the Monocoque Cabin draws inspiration from the RAF WWII de Havilland Mosquito. These fighter planes are prime examples of monocoque design, a concept that has largely remained consistent since its inception around 1942. Monocoque structures, commonly utilized in aerospace and automotive industries, rely on their external skin to bear loads, resulting in a structure that is both sturdy and lightweight, akin to an eggshell's design.

The Monocoque Cabin modernizes this traditional approach, adapting it to

contemporary prefabricated construction standards. Its design features a lightweight, modular system with smooth, curvilinear shapes, devoid of sharp edges, allowing it to blend seamlessly with its surroundings.

Tailored to its environment and specific site conditions, the Cabin is designed to be both unobtrusive and easily transportable within the landscape, presenting as a minimal yet elegant addition to its natural setting.





English Crafts

English craftsmanship is celebrated for its exceptional quality, producing items designed for longevity.

A distinct characteristic of British-made products is their ability to age gracefully, gaining elegance and comfort through use over the years.

Unfortunately, there has been a decline in British craftsmanship recently, as the market increasingly favours less expensive, mass-produced items.

The Monocoque Cabin stands as a testament to this revered tradition. Crafted entirely in the UK by our skilled team, it is built using premium materials that are selected for their enduring beauty and functionality over time.

Sustainable Design

Monocoque Cabin is designed as a modular system that uses CNC manufacturing for precision in construction and quality assurance. To ensure ease of construction, most of the parts for Monocoque Cabin are produced and sourced locally. Monocoque Cabin can be dismantled and moved in just a couple of days without leaving a trace in nature.





On & off-grid

The Monocoque Cabin offers the flexibility to be installed both on-grid and off-grid, catering to diverse client needs and site conditions.

For those opting for the on-grid version, clients will need to arrange for the installation of essential services such as water, electricity, and sewage systems in proximity to the cabin. To assist in this process, we provide a detailed template that can be utilized by local professionals to ensure smooth installation and integration of these facilities.

Alternatively, the off-grid option is customizable to suit the unique characteristics of your location. Leveraging our expertise in off-grid systems, we are equipped to offer valuable insights and guidance.

Our team is committed to collaborating with you to create a solution that aligns with the specific requirements of your site, ensuring a seamless and efficient setup of the off-grid Monocoque Cabin.

Wastewater

The off-grid system uses either a septic tank, located underground.

Electricity

Just a few years ago, electricity off-grid was considered inconceivable. Monocoque Cabin can be fitted with a solar system.

Water resource

Based on your geographical location, various water sources can be considered, such as utilizing borehole filtration systems or implementing rainwater harvesting methods.

Pricing

Design Options:

Depending on your needs, we have three distinct options available.

The price of the Monocoque Cabin options is available upon request.

Option 1 - Shell only:

The shell only option is ideal for those interested in self-builds and project installation, this option is installed on your site. However, there will be a lot of building work required to get this to a habitable state.

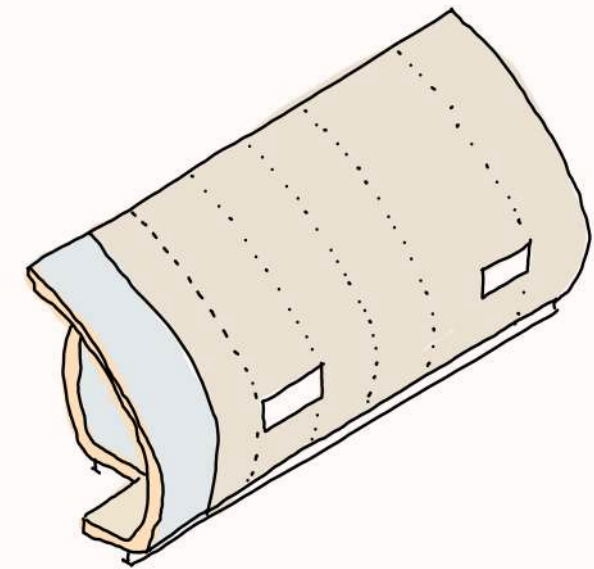
Option 2 - Turnkey:

The turnkey option is suited to those looking for a complete option, so they can quite simply, turn the key and use. It includes a decking, fully fitted out and furnished interior. The cabin is connected to the mains electric and plumbing.

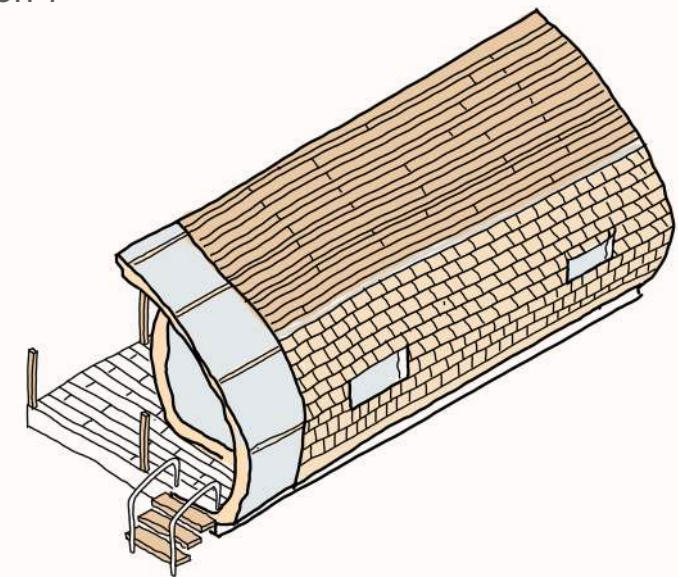
Option 3 - Off-grid in harmony:

This option is suited to those with an off-grid plot of land and need amenities, such as integrated solar panels, a reed bed and septic tank for drainage and landscaping that is created and dependent on individual design options.

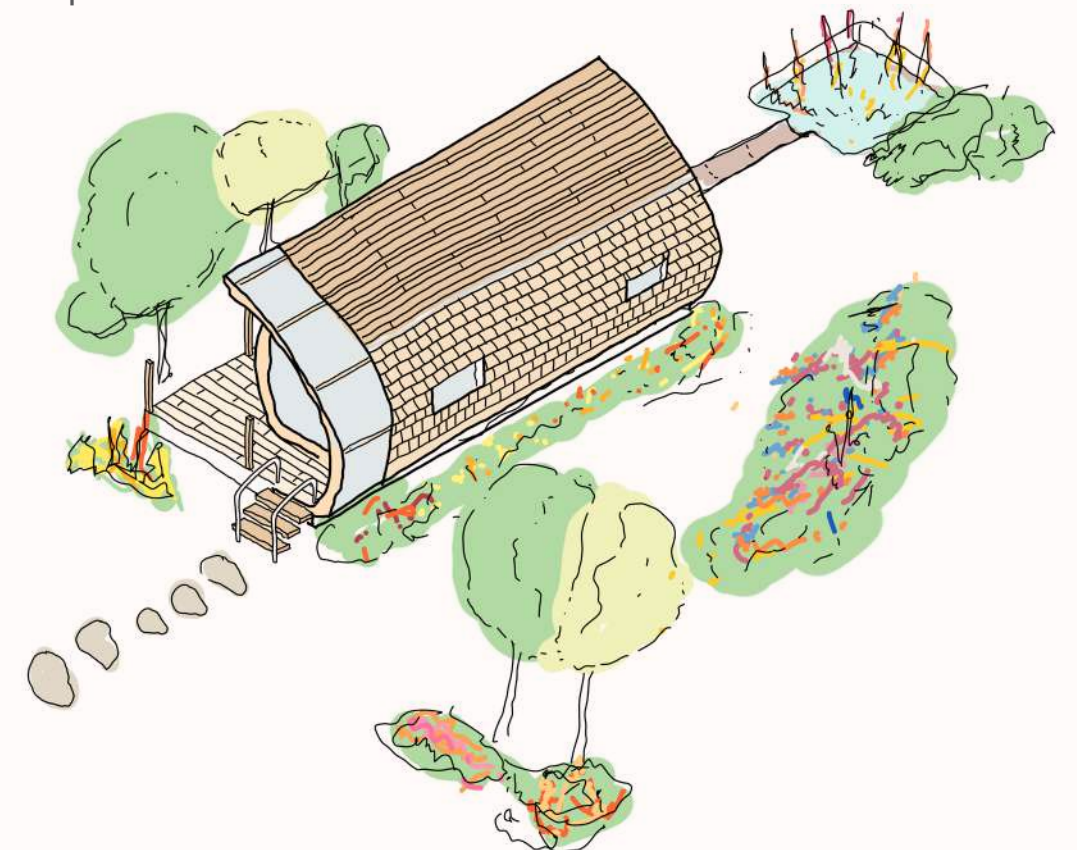
*Based on the specific characteristics of your location and its intended use, you might need to obtain Building Control and Planning Approval. Peter Markos, with his status as a RIBA Chartered Architect and extensive experience in obtaining planning permissions in rural areas, is well-equipped to assist in this process.



Option 1



Option 2



Option 3



Interior

Great attention to detail has been invested in designing the cabin. It is our vision to ensure a seamless integration between the grain and material of the inside with that of the outside. The cabin's interior can be customized to meet specific requirements. For instance, if you require a workspace, the internal furnishings can be tailored and redesigned to suit this purpose before manufacturing.

Business Case

Monocoque Cabin started life as a Architecture project created by Peter Markos for the purpose of becoming a holiday let to rent out.

To support you in your choices, we have created a business case, based on the concept.

After agreeing to a profit share for a parcel of land with Peatswood Farm, Shropshire, the project was subsequently created as a holiday let.

We have used this pilot case to learn and improve Monocoque over the past three years.

Some key performance figures:

- Average occupancy rate: 75%
- Average daily rate: £180 per night, ex VAT.
- Average length of stay 2 to 3 nights.
- Average occupancy: 2.5 persons per stay.

In 2023 we secured \$100k funding from Airbnb through an international competition involving 200,000 competitors to build Monocoque Cabin. Airbnb gave us the funding as they believed in our business case.

More information and details of the business case can be provided upon request.





Apply to pre-order

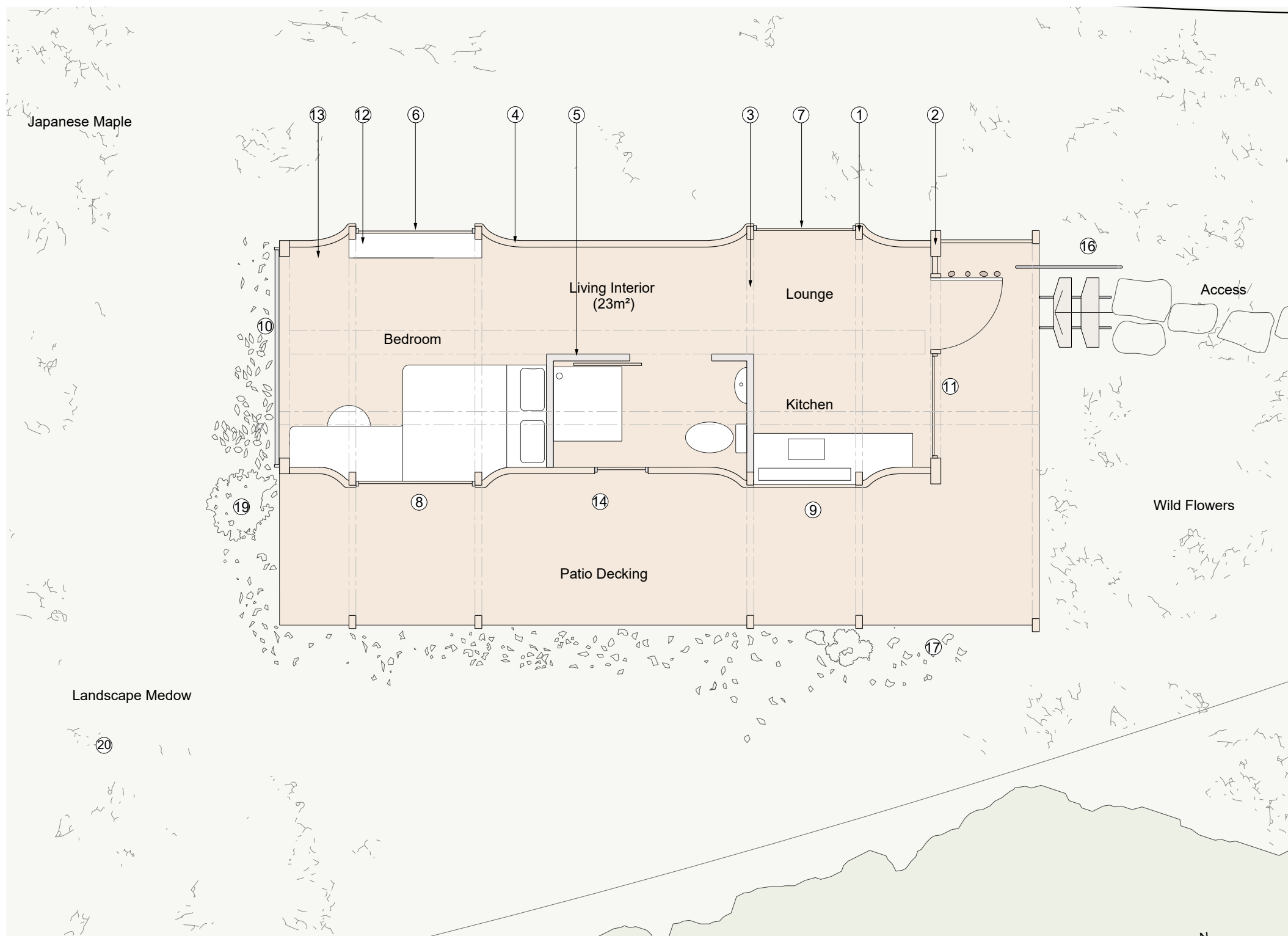
Order process



You are welcome to submit a no-obligation application to purchase a Monocoque Cabin. Our team will reach out to each individual who expresses interest in pre-ordering to ensure that our visions align. Should we find a mutual match in our aspirations, we will invite you to complete your pre-order, providing you with the opportunity to reserve your very own Monocoque Cabin.

Payments

Pre-order with reservation fees	
Order	50%
Shipment	40%
Installation	10%



Technical Details

Floor area

Approximately 23m²

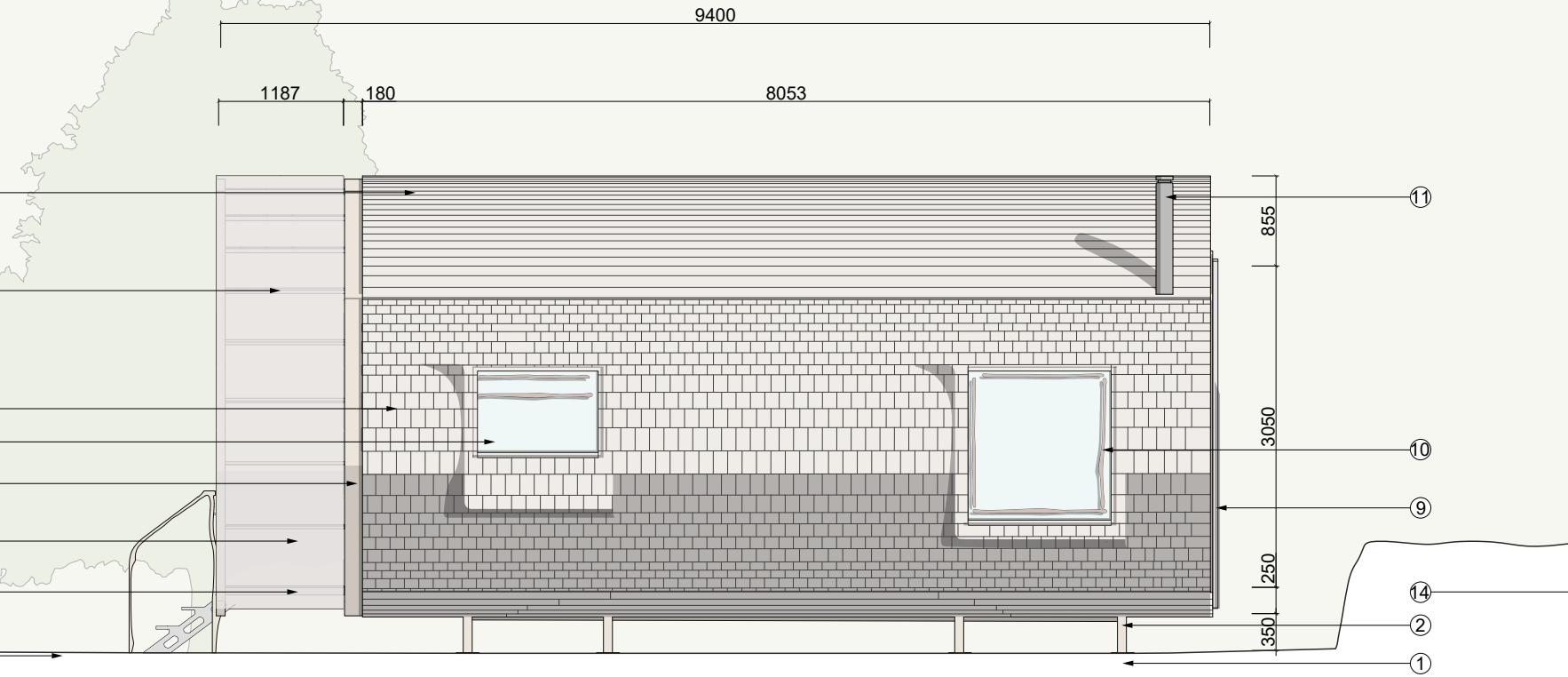
Weight

Approximately 15 tons

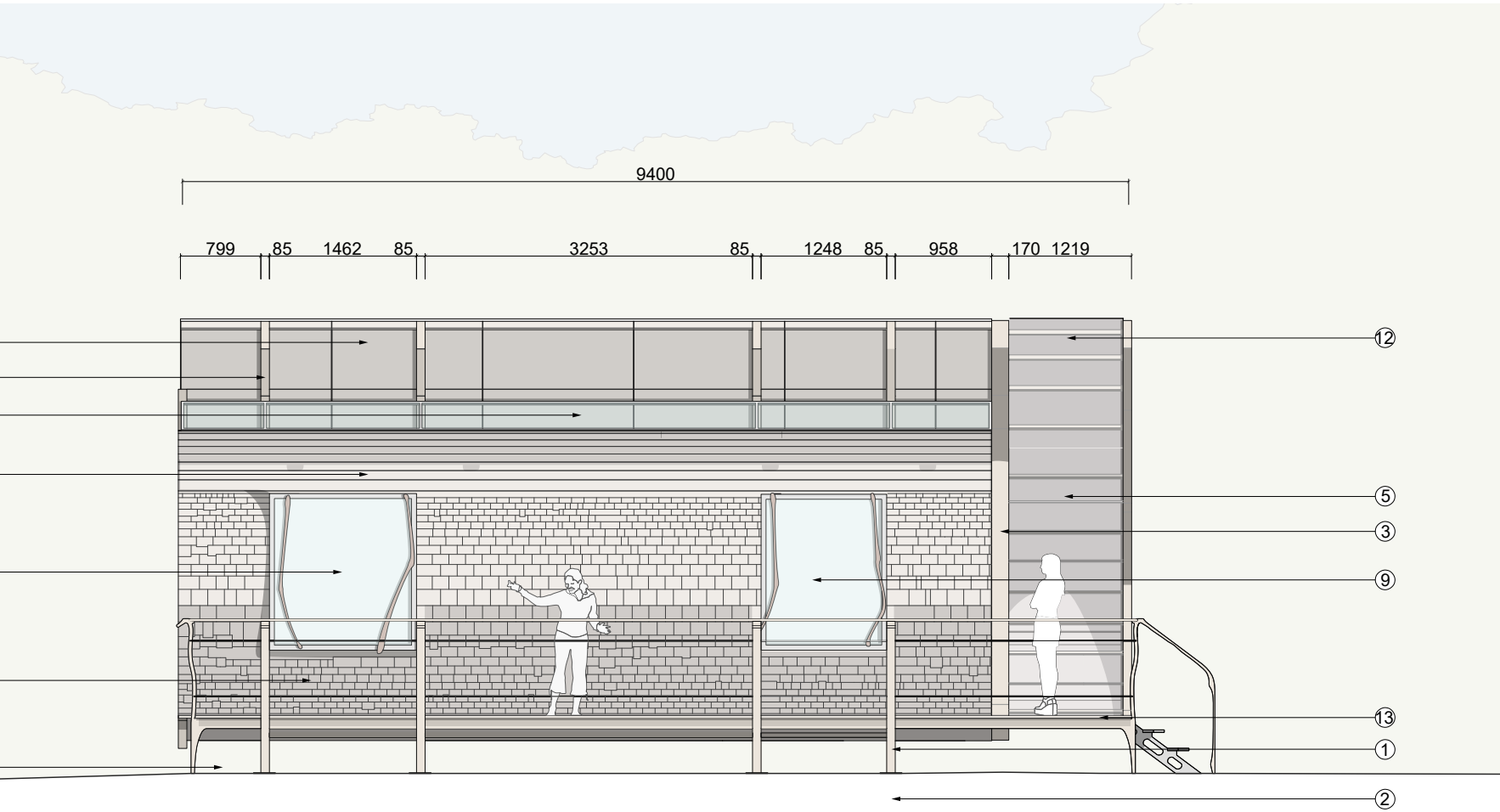
Height of the Cabin

4.5m

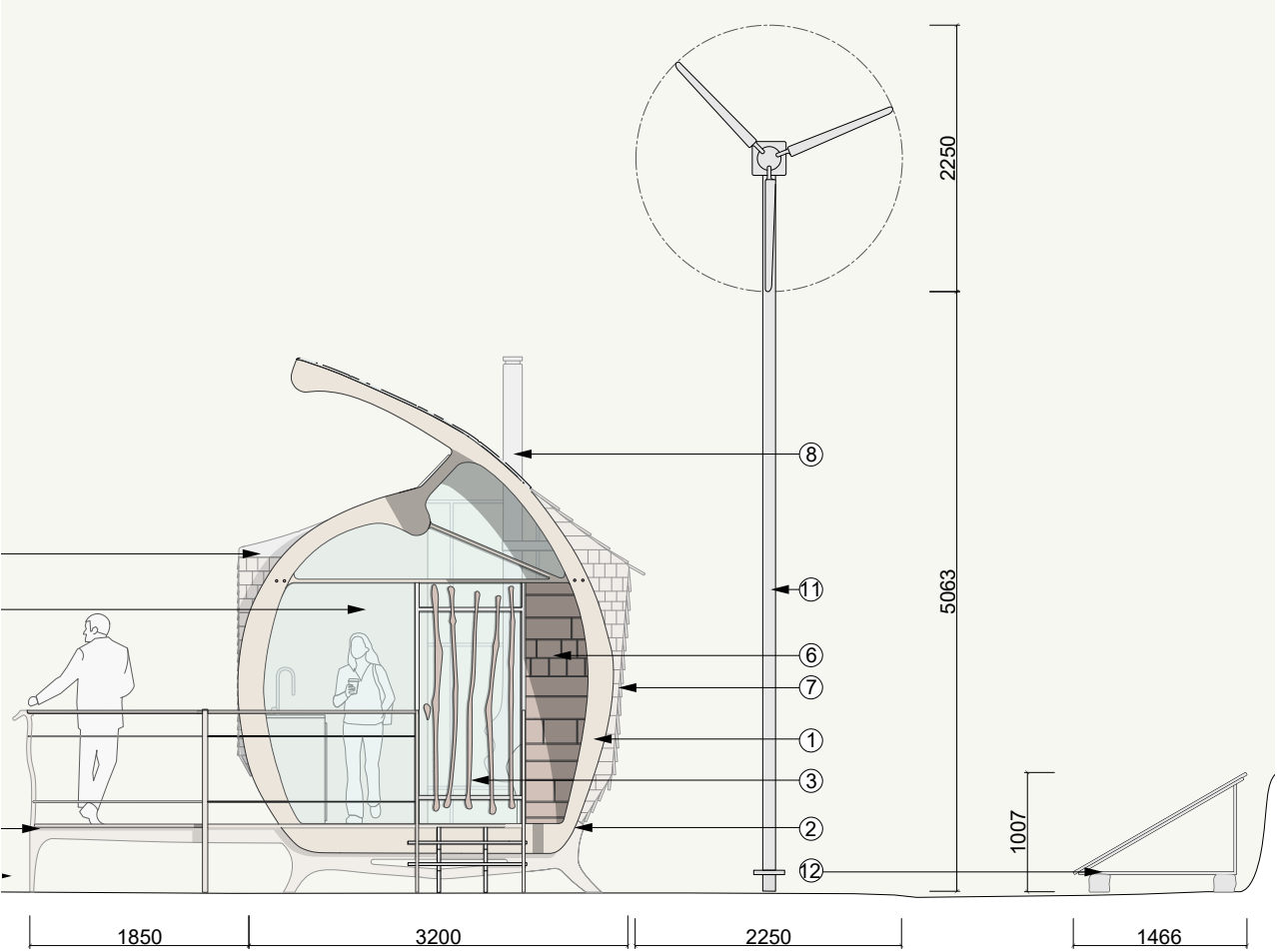
MAX3-400 Series Mono-COM Solar Panel.



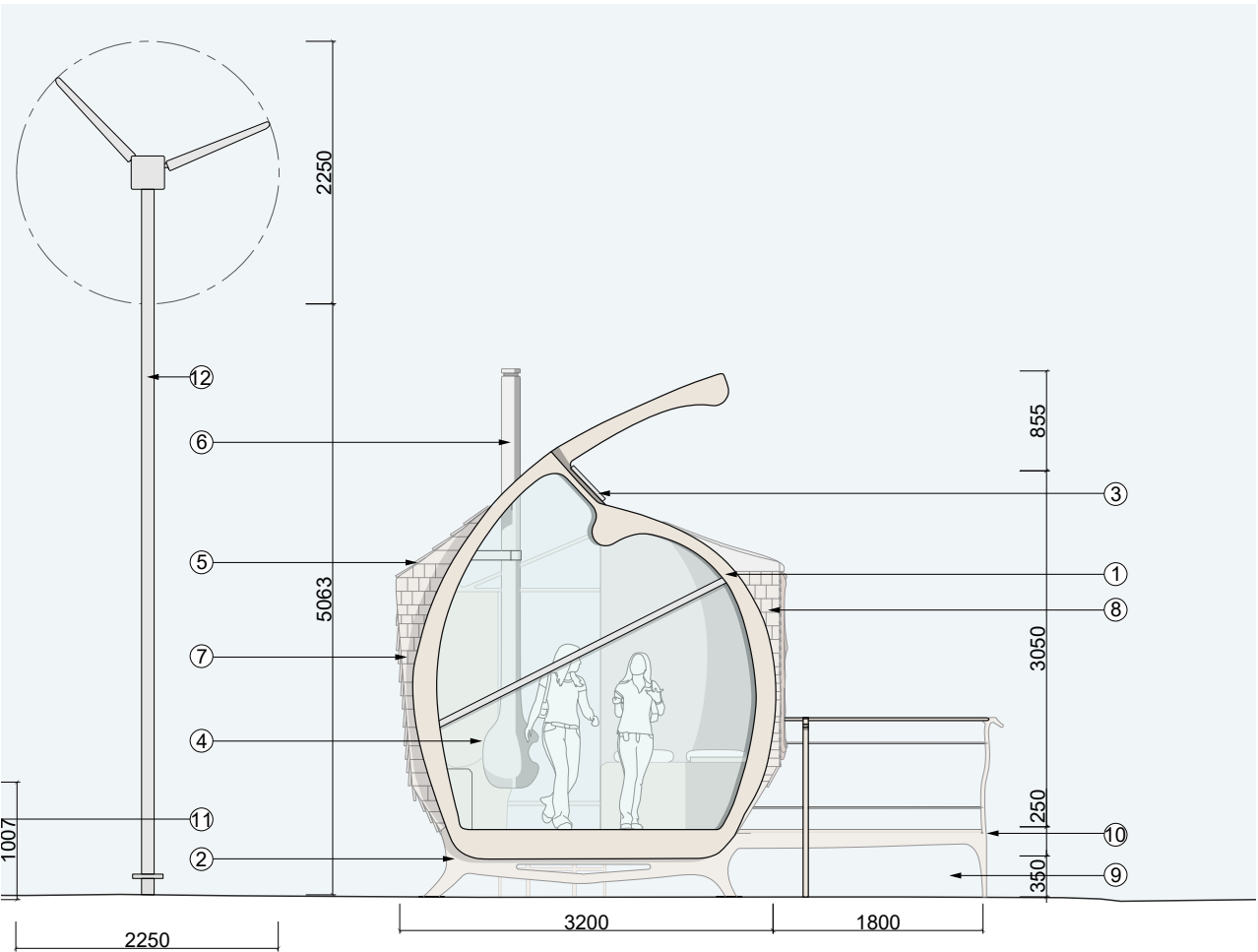
North Elevation



South Elevation



East Elevation



West Elevation

Technical Details

Foundation

Monocoque Cabin is designed to have minimal impact on nature, and therefore does not require a conventional concrete foundation. In most cases, a screw foundation is sufficient.

However, local soil conditions need to be reviewed and local adjustments might be needed.

Materials

The exterior of Monocoque Cabin is made from long lasting Western Red Cedar Shingles. The Cabin is built with the best materials to ensure durability and strength:

- Birch Plywood interior
- 35mm Multiwall Polycarbonate
- Flexi-plywood
- Double glazing

Climate

Monocoque Cabin is engineered to withstand heavy winds, rain and snow loads, while double glazing and patented airtight seals will keep you comfortable in colder climates. When purchasing Monocoque Cabin, please provide us with your local requirements and regulations so we can guide you accordingly.

Insulation

Monocoque Cabin is fully insulated and airtight to be comfortable at temperatures well below 0 °C.

The cabin has insulated raised floors, airtight shells and double glazing.

Awards, partners & media



Airbnb worldwide contest to finance 100 unique stays, allocating \$100k for each.



Working closely with Innovate UK through a RTO grant for growth development.



Price & Myers undertook the engineering work and have an international reputation for quality.



Building Design featured the project in recent articles.



BlokBuild reputed for construction and Modern Methods of Construction (MMC).



Featured in the Architects Journal and was a popular article.





Find out more at:
[markosdesignworkshop.com/
monocoque-cabin-product](https://markosdesignworkshop.com/monocoque-cabin-product)

Disclaimer: We strive to provide complete and accurate information in this brochure. Nonetheless, it may include typographical mistakes and other inaccuracies. We are not liable for such errors and oversights. We also retain the authority to:

(1) withdraw any offer mentioned in the brochure; (2) rectify any errors or inaccuracies; and (3) modify prices, content, descriptions, product specifications, or any other details in this brochure.