GREENPOD
SMART HOME

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BUILDERS

v1.0

GREENPOD FUTURISTIC SMART TREEHOUSES

Ocean Builders is building GreenPod Futuristic Smart Treehouses with the goal of providing low environmental impact homes in various areas including hillside locations where most homes can not easily be placed.

We believe GreenPods will create a great opportunity for countries we operate in as it creates a new industry with this unique product and the lifestyle it offers.

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4 PILLARS OF INNOVATION

1. Engineering
2. Architecture
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BATHROOM / SHOWER

BEDROOM

MAIN ENGINEERING

LIVING ROOM

KITCHEN

PATIO

ECO FLOORPLAN

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GREENPOD TREETOP HOMES

Pods are made to withstand the harshest conditions on the planet. The ocean. Salt water in the ocean is very corrosive so engineering a home that is built for the ocean environment makes it one of the best choices for a land based homes because it is made to a higher standard because it has to be.

LIVING AREA

The Flagship model consists of three half floors.

The upper floor has the master bedroom and a restroom with shower.

The middle floor has a kitchen and a patio.

The lower floor has a living room which can be used for multiple purposes including an office, gym, or second bedroom.

The main engineering room is located under the living room level.

The GreenPod is made of standard boatbuilding materials like foam, fiberglass, gel coat, and steel.

The normal way to enter and leave the GreenPod is via the spiral staircase from a door in the central riser at ground level.
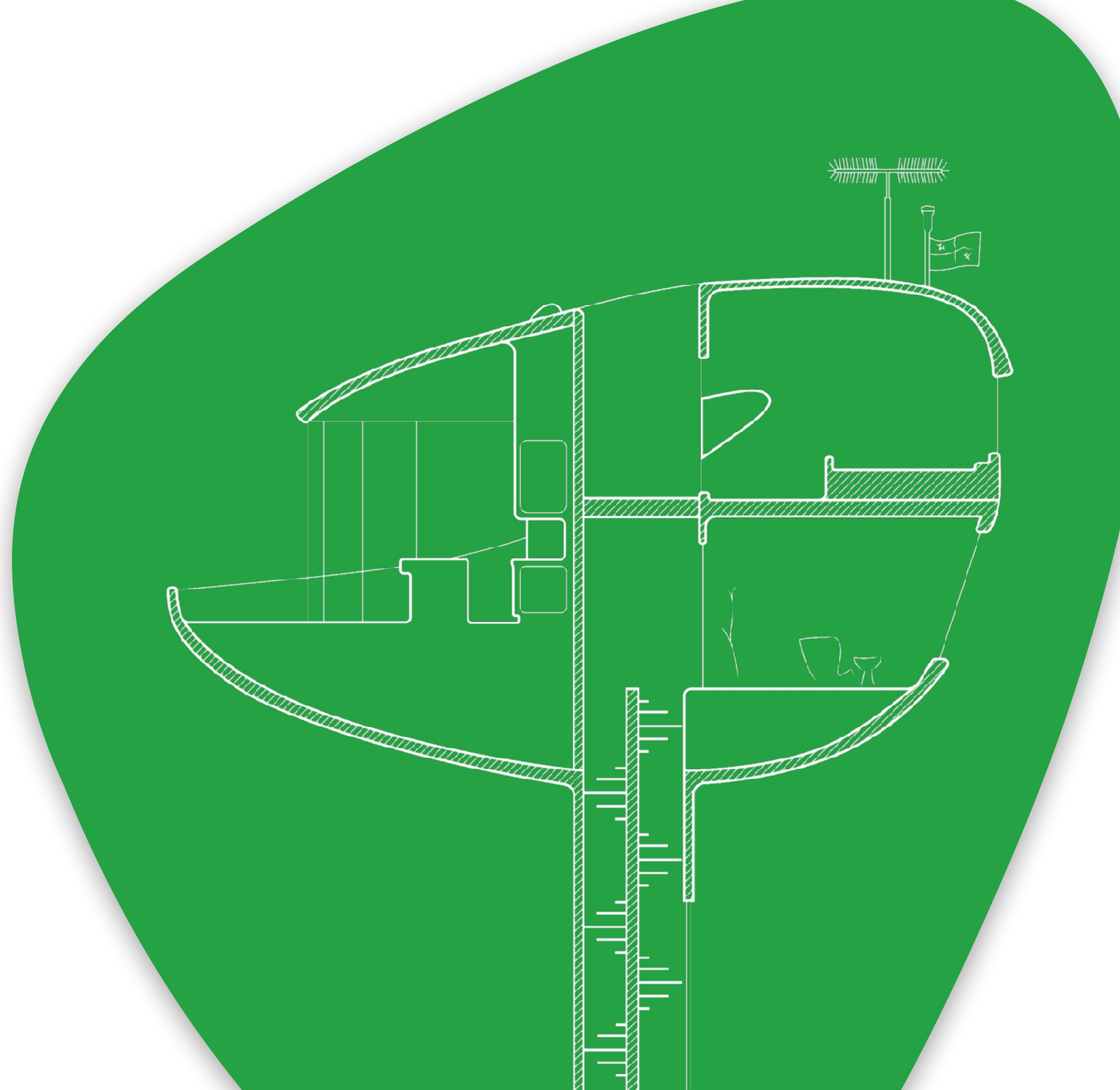
The GreenPod consists of two major components:
1. Above ground living area
2. Supporting foundation

The design philosophy of these homes is meant to provide owners with an elevated living experience with minimal environmental impact and modern smart home conveniences.

ASSEMBLY PLANT
In Linton Bay Marina, Panama

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Workers gathered around the SeaPod to celebrate a successful launch on August 22
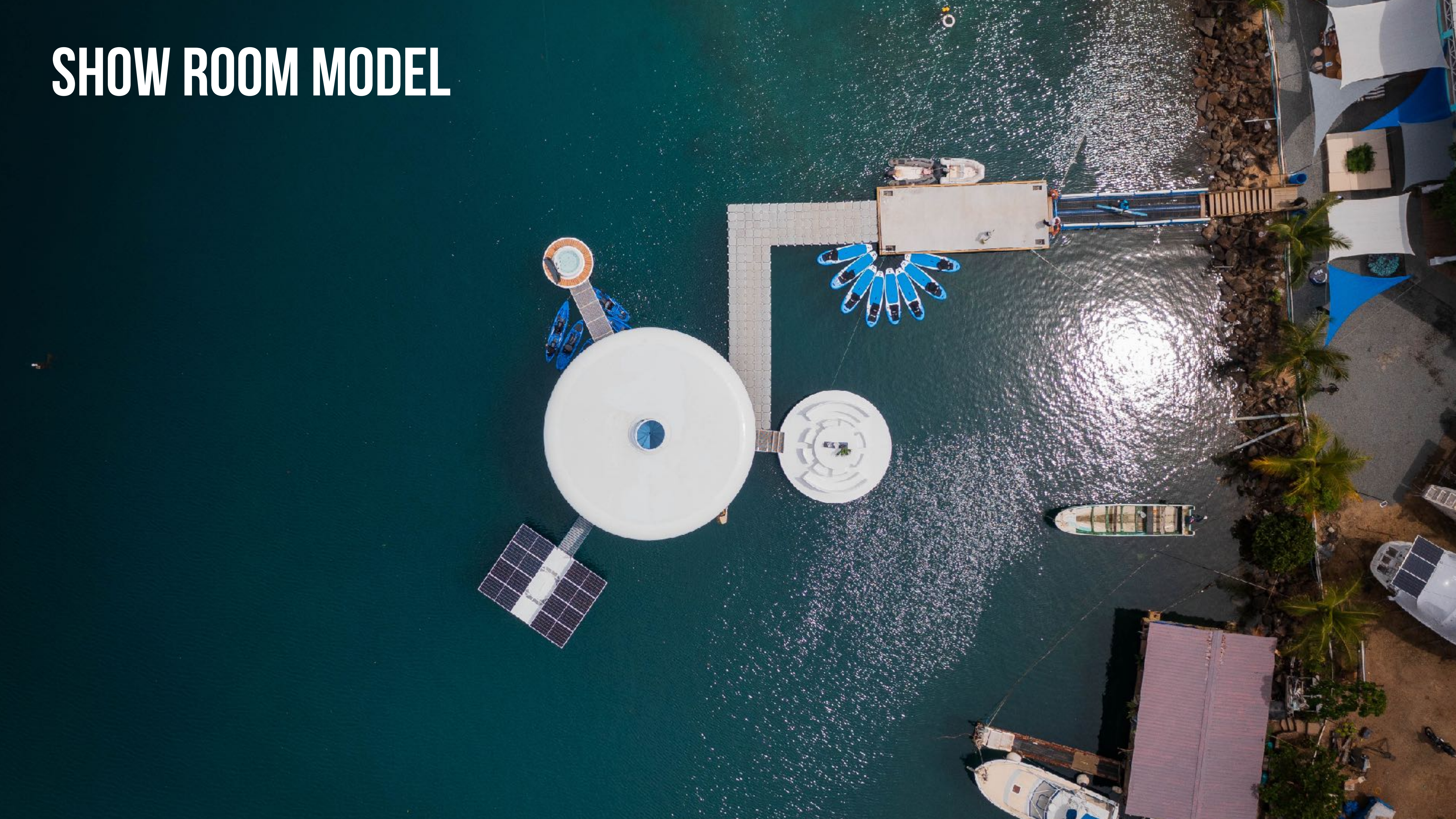
SHOW ROOM MODEL

SHOW ROOM MODEL

PRODUCTION

We have launched our first model show home. The first home is a floating home which is significantly more complex to engineer. We are preparing to start production of our land based Pods shortly

AERIAL DELIVERY

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You can order food, drinks, convenience store items and more by drone delivery which will be built in to the Pod Companion home app. Aerial drone delivery is more ecologic and energy efficient compared to driving a car or boat to a store for pickup.

Available in select locations

MIELE SMART APPLIANCE INTEGRATION

Ocean Builders has partnered with the high end home appliance manufacturer, Miele, to bring their line of smart appliances to Pods and together we are building deep integration and functionality so you can control all your appliances and automate your home in a way that has never been possible before now.

Optional Upgrade

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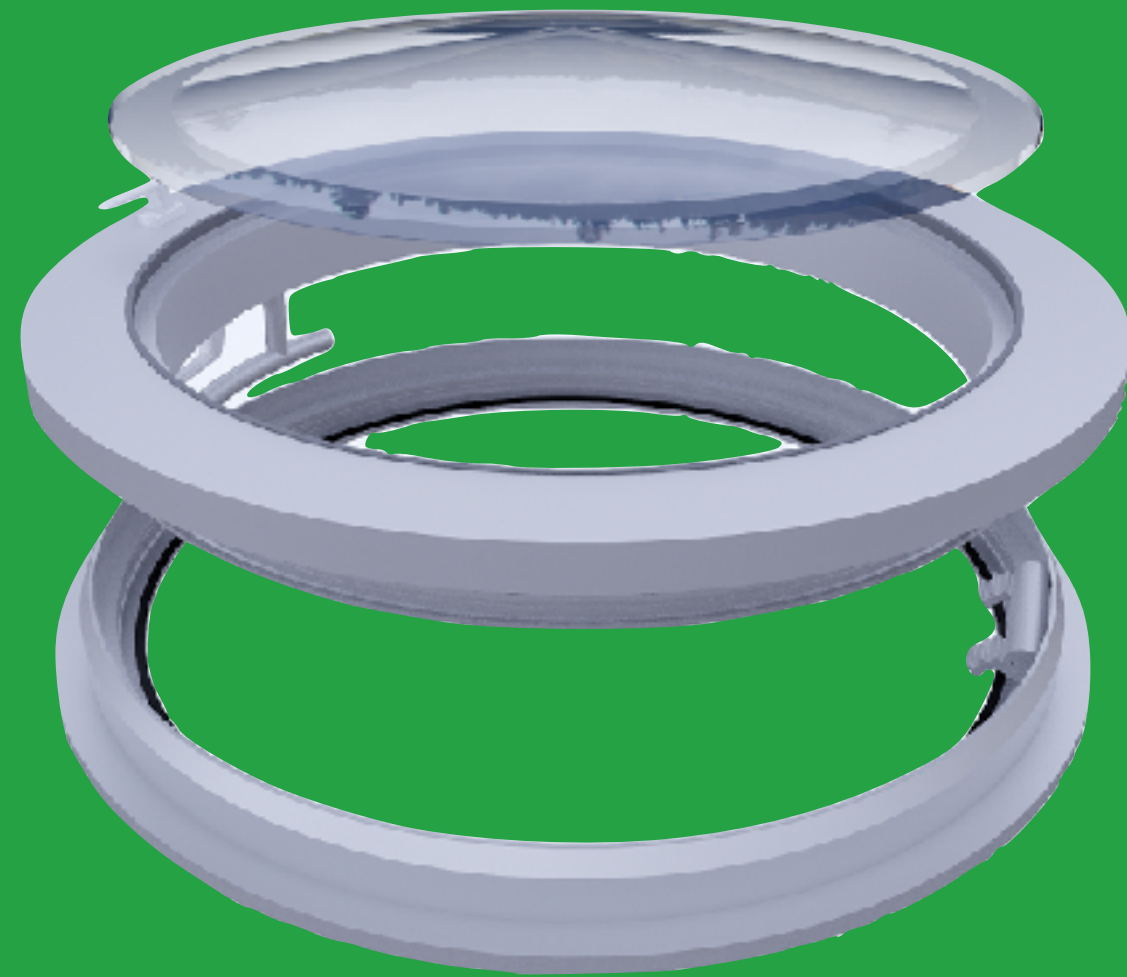
Sunroofs can open automatically to help cool the house down to reduce the need for A/C and to improve airflow. They will close automatically if it starts to rain or if it gets too windy.

Optional Upgrade

STAINLESS STEEL SMART TANKS

Pods have stainless steel double wall tanks with a vacuum layer to keep hot water hot more than 10X longer than with uninsulated tanks. They are made from stainless steel so there is no leaking of chemicals from plastics into the water. The tanks have water temperature sensors and level sensors to help manage water usage better.

Optional Upgrade

PRIVATE VOICE ASSISTANT

Your Pod can be controlled by voice. At launch you will be able to control many aspects of the smart home by voice. Additional functionality will be added over the coming months. In the near future you will be able to trigger complex automations with a simple command. We have integrated an open source voice assistant which does not send data to any third party or cloud service for processing but if you prefer to use Siri or Google Assistant you can use them as well.

Optional Upgrade

SMART BLINDS

You can add regular or blackout smart blinds that open and close automatically in the morning/evening or by voice, tablet, or gesture control.

Optional Upgrade

WHOLE HOME AUDIO

You can customize your Pod with high quality audio sound system installed throughout your home using JBL speakers.

Optional Upgrade

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FOLLOW ME

Unlock advanced functionality of your pod

Your Pod preferences are saved to your profile. With our award winning Follow Me service you can take your Pod Preferences with you anywhere you go. If you have multiple pods in different locations your pod will automatically configure itself to your preferences the moment you swipe your smart ring at the front door.

Optional Upgrade

BED PRESENCE DETECTOR

We have optional pressure sensors built into the bed so you can start any number of automations just by laying down or getting out of bed. The system can automatically trigger a nighttime routine when you lay down to sleep. The routine can close the windows, close the blinds, turn on your reading light, and do whatever else you would like your home to do. When you get up in the middle of the night it will automatically turn on a nightlight to guide you to the bathroom. In the morning getting out of bed will turn your coffee machine on and make you your perfect cup of coffee.

Optional Upgrade

TABLET CONTROL

You can control your whole Pod from tablets located throughout your home.

Optional Upgrade

Camera POV

GESTURE AI

Optional upgrades include Gesture AI to control lights, music, blinds, and more with simple hand gestures.

RAINWATER COLLECTION

Our Eco model on land and sea offer flat roofs designed to collect rainwater so you can be more water independent.

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HELICOPTER LANDING & PASSENGER DRONE READY

Our Eco model on land and sea offer flat roofs which can be specially reinforced to allow you to land a helicopter or passenger drone on the roof. We are making this available because we believe passenger drones will become practical within a few years and we want all Pods to be fully compatible.

SMART SHOWER

The smart shower upgrade allows you to activate the shower by swiping your smart ring before getting in the shower and the shower automatically turns itself on to your preferred temperature and pressure settings before you get in. You can adjust the temperature, pressure, or which jets are used from the in-shower tablet or by voice control.

Optional Upgrade

LUXURY SHOWER

The shower can be upgraded to include 6 body massage jets, overhear rainshower, and handheld massager .

Optional Upgrade

SMART TOILET

The smart toilet can flush without having to touch a button or a remote. You can flush by voice, app, or by swiping your foot in front of a sensor. You can use them as a regular toilet if you wish or you can go paperless with the built in bidet sprayer and drier.

Optional Upgrade

SMART RING

Unlock advanced functionality of your pod

Pods have hidden hot spots throughout your home. A hotspot can be any small surface on a counter or a wall. When you swipe your smart ring over the surface it can trigger custom automations. We will help you configure your automations. Automations can be one simple smart action in your home or a complex combination of actions like turning on dinner music and special dinner lighting and triggering aerial drone delivery service for champagne that will deliver in 30 minutes at the end of your meal.

Optional Upgrade

Charge your mobile devices on built-in wireless charging surfaces throughout the house. You choose where you want your charging surfaces to be and we install them.

EMBEDDED CHARGING SURFACES

WATER RECYCLING

A onboard water recycling system is used to immediately re-use up to 70% of shower, sink, and washing machine water. This is accomplished using a combination of filters and sensors that detects how dirty or clean the water is and when it reaches a level that it is too dirty for simple recycling then it is sent to the greywater recycling system for treatment.

GREYWATER TREATMENT

SeaPods use a little known grey water treatment technology called Electrocoagulation. The processing takes place in the main engineering room. The machine is able to recycle 100% of grey water at a rate of 1.5 liters per minute with 400 watts of power consumption. The machine is able to treat water with soap, oils, fats, cleaning products, and other toxins typically found in homes. Normally, these types of elements are difficult or impractical to filter out. Until now this process has only been used in industrial water treatment systems since it was invented in 1958. We use electrocoagulation combined with ozonation and filtration. Filters need to be changed once or twice per month depending on usage. Technical details on the water treatment system and water quality test results can be found here and line drawings and details of the system can be found here.

Optional Upgrade

BLACKWATER TREATMENT

SeaPods have a novel blackwater treatment machine located in the main engineering room. Solid waste of particles larger than a large grain of sand is separated out from the toilet and incinerated into harmless ash. The remaining blackwater liquid from the toilet and urinal is recycled at a rate of 1.5 liters per minute with 400 watts of power consumption. It is treated with a similar device than what is used to treat grey water in the SeaPod. Filters need to be changed once or twice per month depending on usage. The recycled liquid blackwater is returned to the toilet water reserve tank and reused for the next flush. By the time the liquid gets through to the filters it is completely neutralized and non-toxic. Technical details on the water treatment system and water quality test results can be found here and line drawings and details of the system can be found here.

ENGINEERING AND STRUCTURAL ANALYSIS

We have engineering reports covering several aspects of the GreenPod and SeaPod structure including:

- FEA Modeling

- Fatigue Simulation

- Frequency Simulation

- Buckling and Collapse Simulation

- Loads

- Stress Hot Spot Analysis

- Thermal Simulation

- Maximum wind tolerance

Reports can be found online here. General details on a room-by-room basis can be found here (these pages are slightly out of date).

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SAMPLE PRODUCTION SCHEDULE

Process	Day by day estimate of work
Customization & Consultation	1 → 14
Determine Location & Location Planning	1 → 30
Spar Configuration - Finalize Design Based on Location	1 → 30
Re-zoning and Re-titling	1 → 240
Environmental Impact Study	1 → 360
Order Windows	30
Order Steel	30
Order Fiberglass & Resin	30
Order Smart home technology	30
Windows Arrive	150
Steel Arrive	150
Fiberglass & Resin Arrive	150
Smart home technology Arrive	180
Fiberglass Pod Manufacturing & Assembly	150 → 240
Interior Design Build Out	240 → 310
Smart home tech installation	300 → 345
Steel Riser Manufacturing	150 → 240
Programming Smart Home Technology	345 → 360
Flagging	345 → 360
Site Preparation	240 → 360
On Site Assembly	Depending on location
On Site Foundation	240 → 360
Buffer - 2 months	360 → 420

RESIDENCY IN PANAMA

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Residency in Panama is not required to buy and own property in Panama. If you are interested in getting a second residency we will connect you with lawyers that will work with you to find the best residency program and walk you through the process to make it easy. Some of the main paths to residency are:

• Friendly Nations Visa

• Retirees & Pensioner Visa

• Reforestation Visa

• Self Solvency Visa

• Private Income Retiree Visa

• Married with Panamanian

• Panama Italy Treat Visa

• Digital Nomad Visa

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THE COMMUNITY

You can have a Pod in a more private environment or be in a community of Pod owners.

ELECTRICAL SYSTEMS

Energy is supplied by grid power or solar panels and a backup generator. Electricity is stored in lead acid or lithium batteries. Complete details on the self-sufficient solar electric system is here.

There are two inverters. High amperage appliances like HVAC have their own inverter so as to not disrupt other critical systems in case of failure.

Power is available in 110VAC power outlets with GFCI and thermo magnetic circuit breakers from the main electrical panel in the engineering room. All AC outlets are grounded. DC Power is supplied in 5, 12, 24, and 48 in various locations throughout the house. UL1426 certified IP65 electrical components (standard used for marine installations) is used wherever possible. Complete electric system details including all known electrical loads, wire gauges, fuses, etc. can be found here.

Upon completion of the complete system we will certify the entire installation and all homes will be inspected by certified electricians. Wiring for each room can be found here (finalized line drawings are available in the owners manual to your pod).

POWER CONSUMPTION ESTIMATES

Pie chart — Power Consumption Estimates:
- A/C 55%
- Water System 16%
- Home Automation 13%
- Kitchen 10%
- Lights 7%
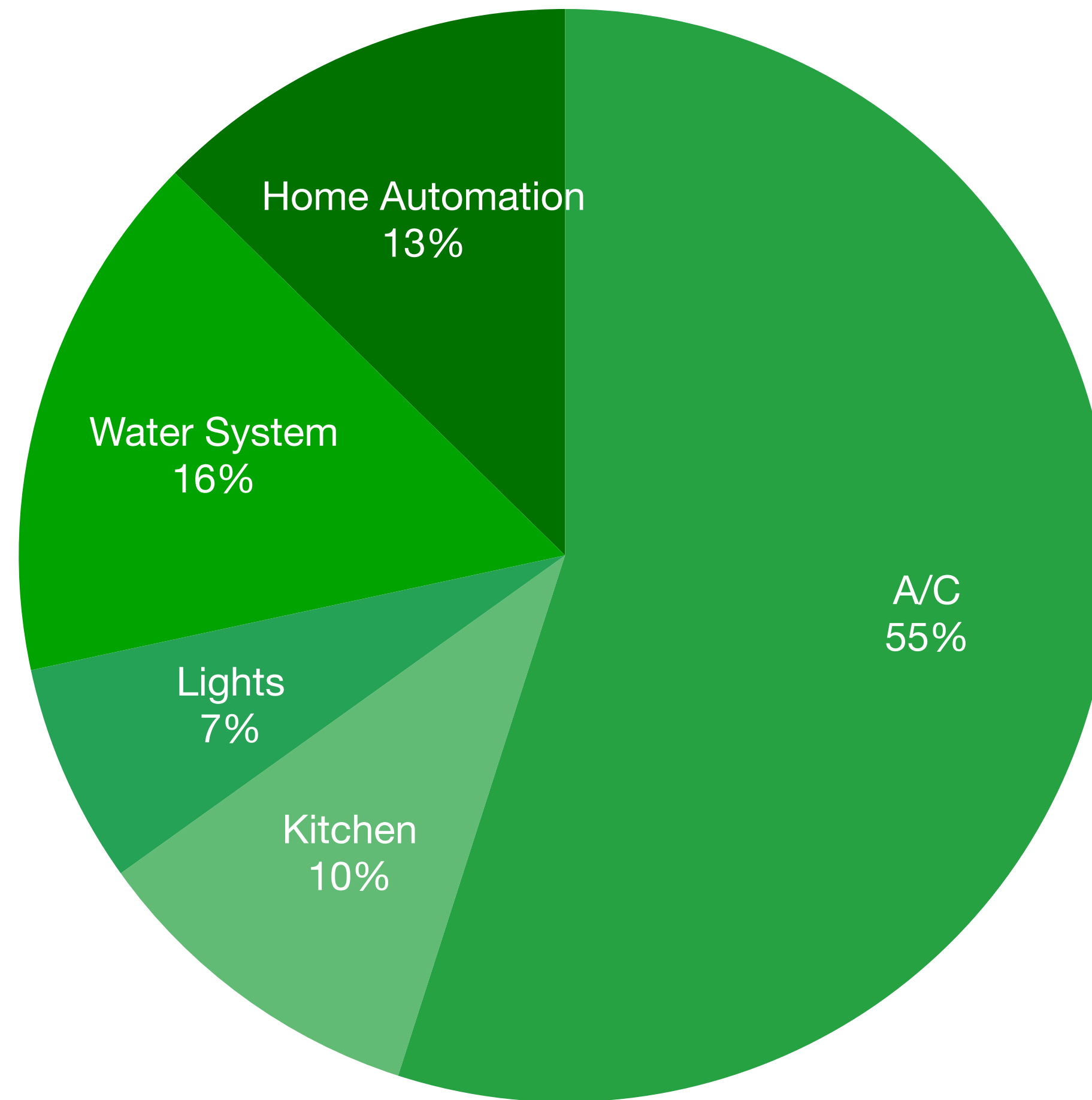
Actual power consumption can vary widely depending on individual preferences and usage. This is based on 32 kilowatt hours usage per day

PLUMBING SYSTEMS

The plumbing for each SeaPod will be inspected by certified plumbers.

Plumbing plans for the SeaPod will be available [here](#).

GAS SYSTEMS

We use a high efficiency and low noise backup generator with a 20 gallon propane tank located on the outer spar and separated from the living area.

A second 20 gallon propane tank is used to incinerate solid waste from the toilet incinerator. This is located in the storage room.

Gas line drawings will be available here.

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DIGITAL SECURITY

Access to the home automation system is via encrypted communication on iOS and Android Apps or by tablet computers in the home.

The home tablets have a direct wired and encrypted connection to the home computer located in the Main Engineering Room. Some home functionality is only available on the physical tablets in the home itself to prevent outside access to core home functionality for security purposes.

Remote access to the home is available via iOS and Android Apps. Access is secured with Amazon Web Service (AWS) Cognito Single Sign On Hosted UI.

Digital Voice Assistants and microphones can be disconnected using a software switch or a manual disconnect switch for people that are concerned about digital privacy.

Video surveillance camera's can be disconnected using a software switch or a manual disconnect switch for people that are concerned about digital privacy.

Data stored on servers is encrypted and can only be unencrypted by authorization from the home owner.

ELECTROMAGNETIC SECURITY

A growing number of people are expressing concerns of sensitivity to electromagnetic radiation (EMF) coming from radio's, wifi, cell phones, bluetooth devices, wireless internet of things (IoT) devices, and other sources of electromagnetic radiation.

We have significantly reduced the amount of EMF produced in the home by using wired connections to the majority of electronic components. There is only one wireless IoT device in the home which uses zwave radio frequency which is the lowest EMF output protocol that is currently available.

The wifi on GreenPods can be turned on and off on a schedule or by using the wired onboard tablet or remote app. Users on the SeaPod can access the internet using an ethernet cable and avoid wifi if they choose. Ethernet cables are located in every room.

PHYSICAL SECURITY

A GreenPod is not a simple home to break into.

Thieves will be easily seen approaching the home due to the elevation.

The entrance to a GreenPod is from a fortified door. Owners will have the option of using standard physical keys or single/two factor authentication to electronically unlock the door. Two factor authentication is given via facial recognition, secure NFC access and/or PIN code.

The living area is 3.5 meters above ground level and you have to climb a narrow staircase to gain access making the GreenPod a difficult target for casual thieves.

SAFETY ORIENTATION

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A safety orientation video and printed manual will be available in English and Spanish.

An online version will be available here.

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All safety equipment, emergency exits, and signage for emergency procedures will be prominently displayed and marked.

EMERGENCY CONTACTS

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Emergency contact information for local medical services, police, and security services is available in the onboard information manual. Your owners manual will list the relevant emergency contacts for your area.

FIRE SAFETY

Every room of a GreenPod has certified fire, smoke, CO2, and gas sensors. If any of these sensors are activated a loud alarm will be triggered, the LED lighting system in the house will flash red and notifications will be sent to the owners of the SeaPod. Each room in the GreenPod has a fire extinguisher.

The kitchen has a fire blanket.

We recommend that all sensors are to be manually tested on a monthly basis to ensure they work properly.

All electrical cables are inspected every three months.

Owners have the option to have the smart home system continuously monitor all sensors and electrical systems to have early detection of any issues that can cause fire.

Fire and Material Safety sheets for walls, floors, ceilings, and other construction materials can be found in your owners manual.

Fire safety training will be provided to all owners.

LIGHTNING PROTECTION

GreenPods use proven lightning prevention systems from Evodis. Details and studies available here.

MANUFACTURING STANDARDS

Ocean Builders has a goal of achieving ISO 9001 certification in 2024/2025.

ISO 9001 is an international standard for defining a quality management system (QMS). It outlines various criteria (or standards) to define quality management principles such as focusing on the customer, optimizing leadership and management within the organization, improving and fine-tuning internal processes, and general methods of continuous improvement.

INSURANCE

GreenPods are treated as traditional real estate with regards to insurance. Insurance is available for GreenPods as it is for any other home.

It is important that the steel riser of the Pod is firmly planted in the ground. A civil engineer is required to ensure that the foundation is made to withstand earthquakes. With proper engineering Pods can be placed in locations where normal homes would be impossible like stunning hillside locations or in forests without having to disrupt the local environment as trees to not need to be cut down. The base of the Pod only requires a 1.6m diameter footprint which is incredibly low for a home.

MAINTENANCE, SAFETY & INSPECTION SCHEDULE

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A Routine Maintenance and inspection schedule is highly recommended and includes:

Plumbing connections and fittings

Drinking water quality testing

Grey water and blackwater filters

Grey water and blackwater recycling unit

Steel hull

Fire Safety Equipment

Water sensor & automatic pump in the hull

All electronic sensors and systems

All safety equipment

Rehearse Safety Drills

Inspection schedules will in included in your owners manual

WARRANTY

Steel
- 50 year life expectancy
- 10 year warranty
- Must be maintained according to the maintenance manual
- Steel hull must be inspected according to the maintenance manual recommendation

Fiberglass
- 50 year life expectancy
- 10 year warranty
- Fiberglass is normally damaged by being at or below the waterline where there is osmosis leading to damage on boats. Our fiberglass is elevated over the ground and not in contact with water which significantly reduces damage.
- External Gel Coat – The top layer needs to be polished every 5-7 years (using polishing paste & fur like material). It is users responsibility to do this.
- Internal & External Cosmetic Cracks. 5 years. Normal use is covered. User abuse is not covered.
- Internal and External Structural Deterioration. 10 years. Normal use is covered. User abuse is not covered.
- Must be maintained according to the maintenance manual

Ocean Builders Electronics
- 10 year life expectancy
- 2 years warranty
- Must be maintained according to the Ocean Builders maintenance manual

Other Electronics
- According to manufacturers warranty policy

Anchoring System
- 3 years - conditional on it being installed by qualified by professional
- Must be maintained according to the maintenance manual

LOCATION

Our inaugural location for the first GreenPods will be less than 1 kilometer from our factory. This is the layout. The highest elevation lots are on the left. The lowest elevation lots are on the right.

We are in the re-zoning and re-permitting phase.

MORE INFORMATION

Contact Us for more information
grant@oceanbuilders.com

Or visit OceanBuilders.com

OUR CO-FOUNDERS

RÜDIGER KOCH

President & Chief Engineer

Rüdiger Koch is an aeronautical engineer from Heidelberg Germany, formerly of the German Navy who spent most of his years as a contractor creating several advanced military and weapons systems for the air and sea.

He was able to put together his original prototype of the floating sea home in the Andaman Sea and has taken the lessons learned from that first model to come up with a much better design, constantly improving and expanding the vision of living on the sea.

GRANT ROMUNDT

CEO

Grant has a talent for spotting innovative technology and figuring out ways to use it to make life better. He has been an early adopter across many fields. He was the first and youngest to write a software program in Canada and compete in a science fair in 1980 at the age of 8, he had the most advanced mobile paperless office in Canada in 1995 including being the first to use VoIP technology in Canada, and he lived in a tech "frat-house" in San Francisco with one of the 6 co-founders of PayPal.

Today he owns several businesses specializing in software development, video production, education, sales, and training. His customers include billion-dollar multinational companies like Wella Professionals, OPI, Clairol, Nioxin, Sebastian, L'Oreal Professional, and many others.

For the past four years, he has been living in a floating home and he is bringing his years of experience in innovation, business leadership, and design, to Ocean Builders to develop the technology & systems needed to build open-source eco-restorative futuristic floating homes on the blue frontier.