Proposal for a Mobile Deployable Infrastructure Base to Strengthen National Resilience

Balancing Economic Utilization in Peacetime and Disaster Response in Contingencies “Dual-Use Solutions”

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Table of Contents

Core Concept:Dual-use Mobile Infrastructure Base | Mobile Aquapods

Installation
30 min.
Ready to use

Economic value in times of peace, rescue base in times of emergency.

Feature

In peacetime, it is an asset that generates revenue as a hotel and lodging.
In times of emergency, they can be moved immediately and converted into frontline bases for saving lives in disaster areas.
This is a completely new strategic solution that contributes to improving national resilience (land resilience).

AQUA POD40 has evolved into a mobile dwelling that can be used immediately in times of disaster.By moving the atmospheric water generator and water circulation system (minimal infrastructure system) together, this new mobile dwelling allows people to live without water and sewage systems.

- Evacuation centers and medical support immediately after a disaster
- Temporary housing in the mid-term
- Accommodation and community revitalization in normal times

Water can be reused when used in conjunction with minimal infrastructure systems

In normal times, tourism, events, accommodations, religious symbiosis spaces, etc... The uses are endless

Overall view ｜AQUA POD30 (50 buildings, water circulation model) Emergency deployment community

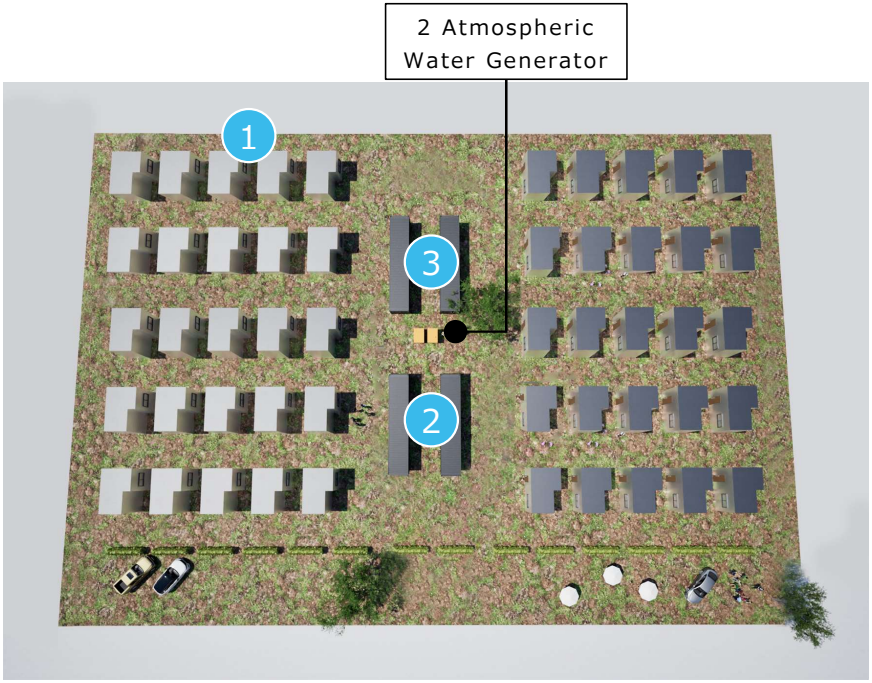
■ 50 buildings SUMERU + minimal infrastructure system 2 Atmospheric Water Generator

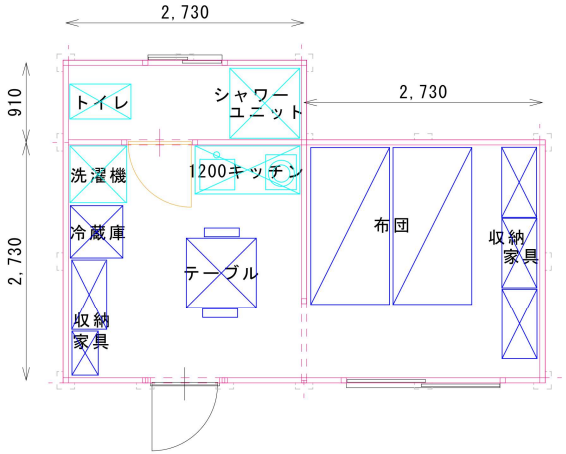
Features

Completely independent of external infrastructure (water and sewage). Quickly builds a safe living environment even in disaster-stricken areas or areas with inadequate infrastructure.

000,000,000JPY
(excluding tax)

- Transportation costs, customs duties, and insurance are not included.
- Plumbing work is not included.
- On-site construction costs (construction, foundations, installation) are not included.





Site area
180m×90m＝16,200㎡（2 acres）

*The figure is an example of a 50-building configuration. The scale and facilities can be increased or decreased as desired.

1	SUMERU	50 buildings x 2.5 people/building = 125 people
2	40ft container for sewage (toilet) treatment	Minimal infrastructure system: 2 buildings
3	40ft container for treating miscellaneous wastewater (domestic wastewater)	Minimal infrastructure system: 2 buildings

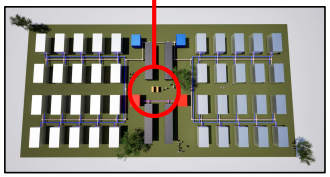
Why our solution is the best fit

Proven reliability: high quality technology and hygiene culture

Complete water infrastructure independence	Operating Results in Japan	Optimization for the local environment	Unparalleled on-site responsiveness	Japan's Strengths
The world's first air-generating water machine and circulation system	Minimal infrastructure Demonstration experiment in Japan	Optimized for diverse climates and cultures	No water source is required, allowing for flexible installation. Generates water from air to ensure sustainability.	High quality technology and hygiene culture

FREE	Other companies
No water source required (air-generated water)	Dependence on water source (risk of contamination)
Circulation type (high sustainability)	Non-recycling (water cannot be reused, low sustainability)
Combined use of solar power (energy independence)	Dependent on electricity (no solar power, affected by power outages)

For drinking water | Signage model Atmospheric Water Generator



POTORI

What is POTORI?

It is truly a “mobile water source” that produces an unlimited supply of safe drinking water from the air. In the event of a disaster, the water of life is secured without fear of contamination.

Use of POTORI signage

In times of disaster, information to save lives, such as evacuation advisories and safety information, is displayed in real time.In times of peace, it can also be used for government public relations.

Item	Specifications	Remarks
Power supply/Maximum power consumption	Three-phase AC 380V, 50/60Hz, approx. 4.5kW	When all functions operate: water production, heating, and cooling
Rated Water Production	130ℓ/day(50Hz) 140ℓ/day(60Hz)	Temperature 27℃ Humidity 60%
Fan Type	Sirocco fan	
Air Intake Volume	30m3/min (50Hz) 32m3/min (60Hz)	
Operating Noise	59dBA(50Hz) 61dBA(60Hz)	
Water Storage Tank Capacity	Approx. 45ℓ	
Supply Water (Purified Water) Tank Capacity	Maximum capacity: Cold water: approx. 8ℓ Hot water: approx. 8ℓ	Hot water can be adjusted to room temperature
Supply Water Temperature	Cold water:approx. 5～10℃ Hot water:approx. 80～95℃	Hot water can be reheated
Water Dispensing Speed	Approx. 30ml/sec	
Unit Weight	Approx. 190kg (when water production is at maximum,Approx. 250kg)	
Dimensions	W1400×D530×H1730mm	Dimensions of casters are not included.
Operating temperature	5℃～40℃	
Operating humidity	25%～95%	Water production is significantly less efficient below 35%.
Supply Water Quality	Suitable for drinking (provided that the intake air is from a normal environment)	Option: sodium filtration and adding chlorine
Others	Features: direct water line connection and a water drawing function	

Note: Water production volume is a theoretical value and varies depending on the surrounding environment.

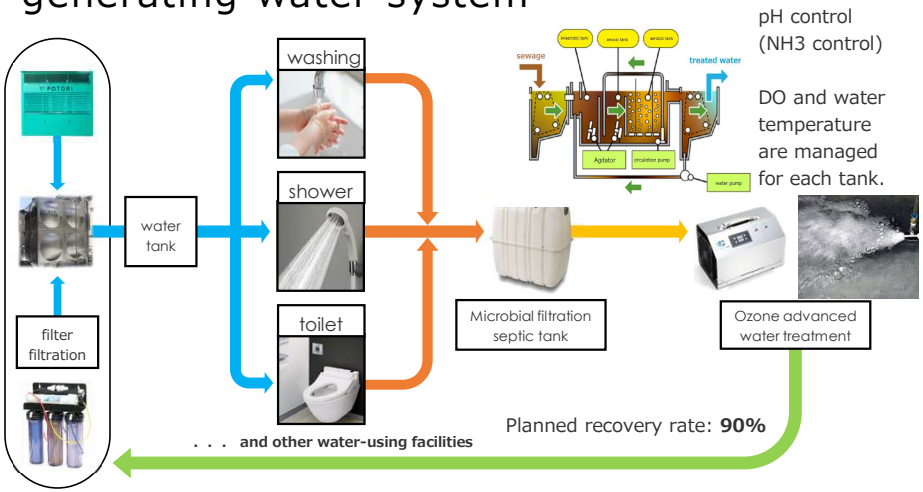
What is a minimal infrastructure system?

■ A sustainable, self-sustaining water circulation system that does not depend on large-scale infrastructure

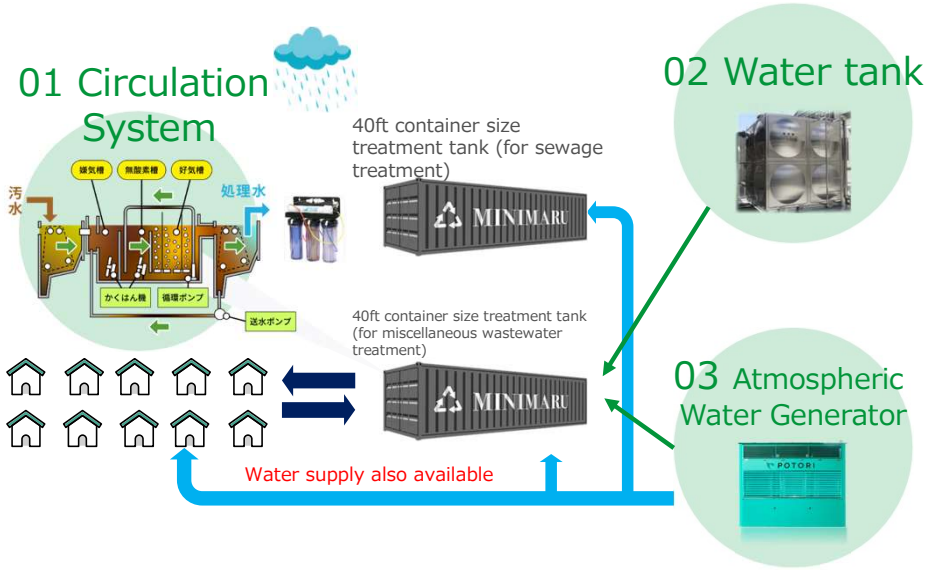
A decentralized infrastructure that combines air-purifying water machines and composite septic tanks will create a sustainable water environment that can replace conventional water supply and sewerage systems.

System overview	• Water supply: Generate water from air • Wastewater: On-site treatment and circulation • Features: Short installation time, low cost, low maintenance

Circulating (wastewater reuse) air-generating water system



How minimal infrastructure works



Container size

Features and benefits of the minimal infrastructure system

Quick installation and mobility

Containerized for easy transportation and installation. Rapid deployment to disaster-stricken or isolated areas.

Countermeasures against frequent disasters

In the event of frequent disasters such as floods, earthquakes, and tsunamis, the system can remain self-sustaining even if lifelines are cut off.

Ensuring safe and clean drinking water

Air-to-water technology eliminates reliance on water trucks and bottled water

Reduce hygiene and health risks

Safe water significantly reduces the risk of infectious diseases and hygiene issues

Various uses

Can be used not only in disaster prevention housing and evacuation shelters, but also in permanent housing and offices

Cost reduction

Significant savings on water supply and temporary housing costs after a disaster occurs

Sustainable infrastructure

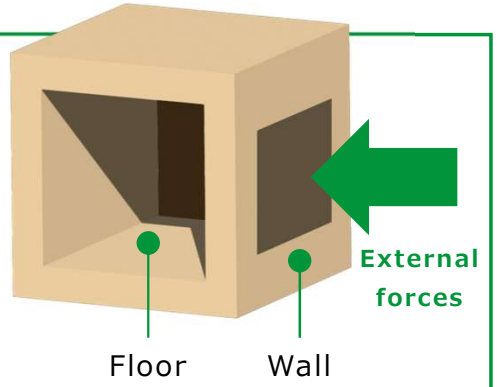
Effective use of water resources through a circulation filtration system compatible with solar and renewable energy

Environmental friendliness and SDGs contribution

Reduce waste, save energy, and contribute to achieving international goals (SDGs)

Minimal Infrastructure" ideal for both disaster prevention and daily life

SUMERU as a Strategic Location: Japan's Cutting-Edge Building Technology



The framed wall construction method is supported by “surfaces” such as walls and floors, so high earthquake and wind resistance can be expected.

Structural performance
- Excellent earthquake and wind resistance
- Highly airtight and highly insulated

Construction efficiency
- Cost optimization through standardization
- Standardized workflow shortens construction time

Safety performance
- Fire resistance

Frame wall construction

Wooden construction method using dimensional lumber to assemble walls

×

Monocoque structure (S×L method)

Wooden panel construction method using panel structure

Structural features
- Surface support system with box-shaped structure
- High earthquake and wind resistance
- Excellent airtightness and insulation

Technical advantages
- S×L structure used in the automotive industry
- Proven technology that proves strength

"SUMERU" is a wooden strategic base that can be permanently installed, overcoming the weaknesses of conventional temporary buildings.

A comfortable house that combines two building techniques

Proposed SUMERU

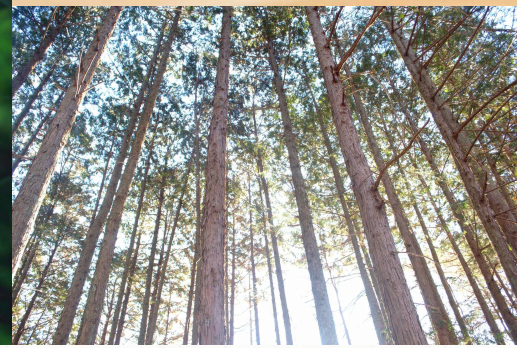
Japanese residential construction technology | Features of SUMERU

檜 HINOKI

Japanese cypress smell

The finest wood used for shrines, temples, and high-class housing in Japan since ancient times “Nihon Hinoki” (Japanese Cypress) is used.

Japanese shrines



The scent of Japanese cypress

The craftsmanship of Japanese carpenters

The craftsmanship of the craftsman combines modern technology with traditional woodworking techniques and highly precise handwork, while understanding the characteristics of wood.

- High durability and termite resistance
- Natural aroma effect, deodorizing and antibacterial function
- High water resistance and humidity change resistance
- Maintaining long-term asset value and reducing maintenance costs

Simple construction design that creates local jobs

We aim to provide sustainable value through the creation of locally rooted jobs.

The minimalist house SUMERU is designed to be constructed with only basic tools (hammer, impact driver, and sealant).

It will be assembled by local personnel, contributing to the creation of sustainable employment opportunities.

Achieve the “speed” required for disaster response

Items needed for this construction

Hammer

Impact driver

Sealing

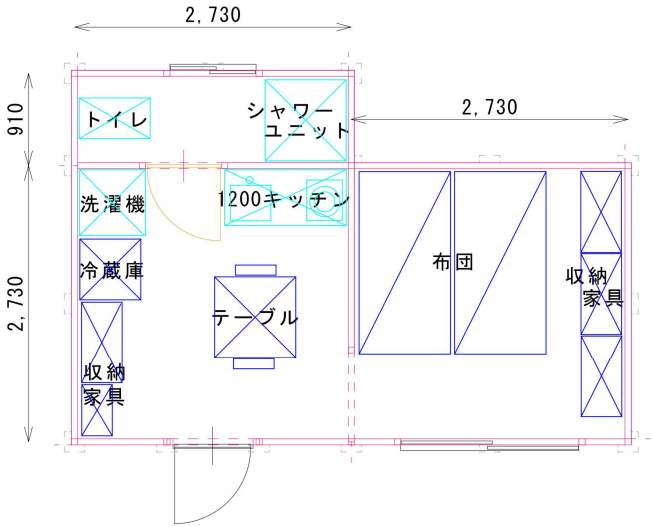
Japan's sealing construction techniques are among the best in the world, with excellent precision and care, and excellent airtightness and waterproofing.

Minimalist houses utilizing this technology also contribute to local job creation

SUMERU (Rendering) ｜1DK

Equipment

Toilet
Shower
Kitchen
Air conditioner
LED lighting



Strategic Investment to Secure the Nation's Future AQUA POD

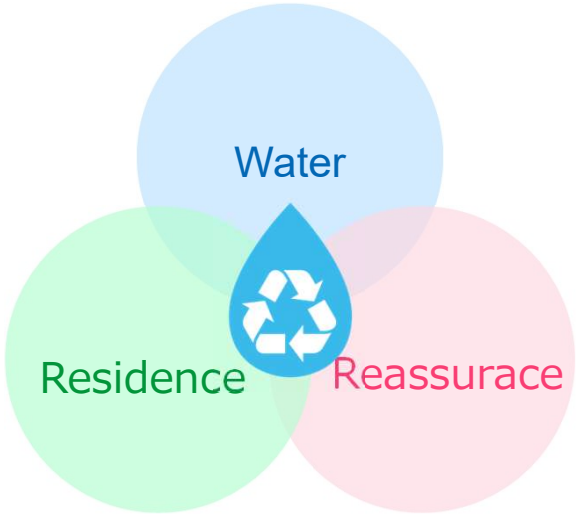
"SUMERU Homes" are equipped with a toilet, shower, air conditioning, kitchen, LED lighting, and are also soundproofed, insulated, and earthquake-resistant.

AQUA POD is an innovative project that achieves both water independence and housing independence at the same time, centering around the SUMERU house equipped with a septic tank and water circulation system.

Our proposal is more than just the provision of housing and facilities.

It is the very idea of “dual-use infrastructure” that balances economic activities in peacetime and lifesaving in emergencies.

Rapidly deployable anywhere, this solution is a solid investment in the future that will dramatically improve disaster response capabilities and keep people safe.



A compact lifeline that can be placed anywhere and used immediately