Beelic Quickly Prototype the Container Home for Self-Isolation

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Abstract. This study aims to discover a living container as an isolated home for a covid 19 patient and investigate the environmental challenges linked with using shipping containers as future dwellings. This study proves using this container as a covid 19 patient isolation home. The emphasis is on how a shipping container may be built quickly and easily for an isolated residence in Indonesia. Future trends for the next five to ten years and overall perceptions of container homes within the selected target demographics are discussed. This study examines container homes' economic, social, and environmental implications, noting significant challenges and outlining potential fixes to increase sustainability for the conclusions from these three portions of this research. Another focus is on alternate container applications and the mechanics of future growth in Indonesia. Our theoretical research, which has the approval of the public and professionals, demonstrates the potential market for mobile houses in Indonesia. Concentrating on producing, innovating, and developing high-quality models boosts the likelihood of success in the Finnish container as a separate house.

1 Introduction

If you or a member of your household tests positive for COVID-19, The Public Health Agency (PHA) has issued recommendations for reducing coronavirus transmission in the household. "Most people are aware of the general precautions they can take to avoid coming into contact with or spreading COVID-19, such as social isolation, face covering when necessary, and practicing good hand and respiratory hygiene, but implementing these precautions and other straightforward measures within the household if someone in your home tests positive for COVID-19 could also help prevent spread among those close to you," said Dr. Gerry Waldron, "COVID-19 is primarily spread from person to person through droplets that are aerosolized and propelled when someone coughs or sneezes, but it is also believed to spread through direct contact with surfaces exposed to the virus because the virus can survive on various surfaces for short periods of time," says the PHA's Head of Health Protection. These two characteristics enhance the risk that others in a person's home will get COVID-19. "If a person's test results are positive, he or she, their family, and all close contacts must live separately for at least 10 days." There is no assurance that everyone will acquire COVID-19 if this is done as early and as frequently as possible, but it also requires aiming to minimize interaction within the house between the positive case and those they live with, as well as implementing a tight cleaning program.

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Fig. 1. Public Health Agency [1]

We know that transmission occurs most frequently, there are several precautions people may take at home to limit the risk of transmitting the sickness to other family members. To do so, developing toolkits that make software, a frequent method is to make hardware and maybe related support materials available to non-experts. Thus, the use of cutting-edge digital technologies in container houses for self-isolating environments,
external interventions (either through expressly commissioned commercial ventures or collaboration with scholars) are no longer the exclusive options. Know-how on engaging people to create interactive exhibits on self-isolation at home. There is a new and profitable way of life in the modern world, and real estate has become an essential market trend. When it comes to living, the possibilities for materials, sizes, and styles are nearly unlimited. You have the option of living in your own house permanently or renting it out as needed. Shipping containers are mostly utilized for the routine import and export of commodities before they accumulate dust or are simply sold. A container house is exactly what it sounds like: eco-friendly housing, modified and designed to meet the needs of alternative lifestyles [2]. Using an ideally supported steel frame, the container offers four typical robust walls, floors, and ceilings. Cutting out a few windows and doors results in a sturdy base structure ready for both insulation and transport. Currently they are usually only used as stowage spaces where goods are delivered by truck, rail and above all abroad. However, to fully design a two-story house, eight containers of approximately 130 square meters are required [2].

Hence the idea that a container house is the solution. However, for human habitation, these steel structures require adequate ventilation, heating, and air conditioning. Container houses are already widespread in temperate regions, and such a business model has been established. However, Indonesia could become a thriving region for such business models due to the opportunities provided by container housing.

2 Ease of Use

Various factors have determined the sustainable prospects of using in recent years, shipping containers have been used as modular homes. Container dwellings are becoming more difficult to manage with each new growth owing to a shortage of space and a simplistic design [3].

However, the issue here is determining how to renovate them, so that they can be used as modern living spaces. The focus of these issues are housing cost constraints, student shortages of affordable housing, limited affordable housing for commuting workers, container housing issues in cold climates, and the modular housing market. Lack of knowledge and awareness in the stockpile of unused warehouses. Obstacles include limited container space at shipyards and land constraints in metropolitan areas. Understanding the rationale for the research subject will help to understand the aspects to consider before building these homes in the future. This would accurately represent popular attitudes and boost interest in the openness to living in a more minimalist and cost-effective home environment. Interior design continues to use these large segments to create homes of various shapes and sizes. Builders can use shipping containers to create high quality, sustainable and affordable homes. These designs are perfect for eco-friendly homes as they use recycled containers to conserve metal resources. The intended outcome of this study is to identify gaps in this body of knowledge and combine proposed points of view that we want to take. As a shipping container owner, the buyer may streamline the whole building and design process. This implies that the house can be relocated considerably faster than typical brick and concrete buildings. The steel frame and no permanent foundation ensure long-term safety gain. Travel freely over land, even in remote areas where bad weather is possible. The research aims to convert shipping containers into segregated housing for commuters. Hospitals are always full to accommodate younger generations such as students who are unable to pay to buy a home soon after they finish college to increase sustainability. Investigate the possibilities for inexpensive housing and how they might benefit society.

3 Home Container

Houses are built in various forms. B. Traditional house construction, old fashioned brick, and mortar, or preferably with as the major material. But over the past decade, like-minded people have struggled to find a more imaginative manner to live and develop methods to make their homes as environmentally friendly as possible [4]. This report focuses on these alternative lifestyles and examines numerous long-term strategies that promote alternative construction materials. Housing construction has an impact on society with advanced technology, and the population is increasing day by day [4]. Innovation has become a more progressive phenomenon in the industry as real estate prices have skyrocketed compared to his 20 years ago and are becoming increasingly problematic [5].

Fig. 2. Home shipping container [5]

As people are aware of this expansion, some people rely only on basic home constructions and affordable prices such as Tiny Homes, Kit Homes, Huf Haus and Parakki Houses. There are many others, but we are now focused on well-known ecosystems in the European market. To comprehend the advantages and disadvantages of container houses, we analyze the most popular alternative housing forms. gain. This solution shows how the enclosure model is generally useful and how it is valuable and containers that are simple to utilize instead of other enclosing alternatives. Alternative structures selected for comparison are the most often used in Europe. Parakki buildings have been in use in Finland for about 100 years. The same applies to kit houses around the world. For comparison, we also selected Huffhaus, which is becoming increasingly popular in Germany. Finally, we will also address the benefits and drawbacks of traditional life.
The primary distinction between a Palakki building and a container building is that the Palakki building is tailored to the situation. Although similar in appearance and function, unlike Palacchi buildings, container buildings start out as containers and grow into habitable buildings. The word Palakki building is broad and may also refer to a structure composed of containers. Usually, his Parakki buildings are very similar to his container houses, but they are not usually recommended for long stays, nor are they used as conventional dwellings. The primary issues with Parakki's structures are that they are chilly, unattractive, crowded, and lack soundproofing. These issues appear to be solvable, but not because the building is in temporary use. Parakki's buildings are not intended for permanent use and are not direct competitors to container housing.

A kit house is a type of house where the buyer orders a kit containing all the instructions and materials to build a particular type of house quickly and easily. According to Kitome, an Australian company that manufactures kit houses, the first kit houses were built in his 1830, but they became especially popular in the United States after World War I. The frames in these kits are made from either steel or wood, depending on the buyer's needs and requirements. Kit housing is a cheaper alternative to conventional housing, mainly because of lower labor costs. Most of the work is done in factories that have completed the production of kit houses. Kit house prices vary depending on the type of home you choose, what is included in the package and what is not included, and the amount of work you do yourself. Another company, Anchor Homes, summarizes Kit Home as follows: It also gives owners peace of mind that projects will always be completed to a high standard and within budget. Kit houses are direct competitors to container houses.

When it comes to modular living, it's tempting to think that homes are usually just a bunch of parts assembled in a factory and delivered to the customer on the spot. But Huf Haus CEO Peter Huf explains how his company has accumulated innovation over the past 105 years to reach the position it is today. The idea of modular living was originally invented by his Huf grandfather but was later passed on to him. His TED video How HUF HAUS has Invented the Modular House explains how many people underestimate the comparison between modular houses and traditional homes. But in 1972 they met with some of the leading architects and one day they decided that column and beam construction was so popular that this was their future, and they made a breakthrough when they decided that the house was usually in the center. The stand is delivered on site and turns into a home after choosing your country. It can be installed at the factory and moved site-wide, but the advantage is that you can choose between HUF HAUS and HUF HAUS. A pre-packaged solution to prevent on-site water damage during the process, it requires a watertight and covered container from the start. Conclusion: Huf Haus is a German company specializing in alternative lifestyles. Their houses are mostly made of wood and glass beams. Compared to shipping containers, they are made of steel and retain their essential structure for living and weather conditions. It can also be retrofitted on site with mobility access and proper building permits and licenses. Hufhaus and Co. competes directly with container houses.
Comparing container homes to traditional homes, there are some key differences that can help you build your own modular, low-cost homes. Figuring out all the finances, land permits and materials needed for assembly takes a lot of time [13]. Among other things, the construction process takes much longer. Looking at a modular house like a container, this accessible design mockup contains the basic structure. This large metal box with four sturdy and sturdy walls, a durable and sturdy roof, and an evenly level floor that allows you to cut out windows and doors is the perfect place to build these habitats. A solid start to the day's work. Factories around the world are already building modular houses in their workshops as segments, adding utilities such as plumbing and electricity once transportation, shipping, and arrival on site within the estimated delivery time ready to go. If multiple tanks are used, they can be repaired and welded relatively easily if properly assembled with proper guidance and support from the supplier's staff. In the long run, they are architecturally advantageous during the design process, but are less cost effective and less mobile as they are permanent structures compared to container homes. Traditional housing is a direct competitor to container housing.

4 Discussion and Analysis

A poll was performed to acquire insight into public perceptions regarding containers, in addition to informing building industry experts on the possibilities of containers. The goal of this study was to learn more about people's attitudes of container housing, their primary worries, and the possibility for the Finnish market to embrace the notion of containers as a dwelling choice. Finally, the study tries to establish prospective target market demographics for container houses, as well as their ideal home image. The section that follows offers an outline of the study's methodology and significant findings. The findings of this study are thought to be broadly relevant to the target group. However, because our research is based on opinions, our findings may be limited to general differences in interpretation. To address possible purchases and general impressions of container housing, this study must conduct interviews with a limited number of building experts in addition to gathering data from the public community through surveys. The interviews were designed to offer answers to precise questions that the layperson would not necessarily have to ask owing to their lack of understanding in this field and that could be effectively posed from both sides.

The purpose of this portion was to seek guidance from building specialists to properly comprehend the issue, which was absent in this research study. By collecting these comments, the data will give more particular facts, allowing you to enter the Finnish container home market simply by searching for and inquiring about potential drawbacks and limits related plots, permissions, and the market. You have greater clout. Design proposal for a shipping container-based isolation residence

Fig. 7. Beelic Isolate home container final
Source Private Documentation

Fig. 8. Beelic isolate home container concept
Source Private Documentation

Fig. 9. Beelic isolate home interior
Source Private Documentation
According to the comments of chosen professionals in the area, containers are a versatile and cost-effective solution to a wide range of building issues. They were pleased with the quickness with which the numerous container houses were manufactured and delivered. The experts were mainly interested in the many applications that containers may be utilized for. From hair shops to schools to business buildings, the only limit is the builder's ingenuity. The most serious issue is that it is impossible to determine what goods have been transported in containers. As a result, containers must be sterilized before they can be used by humans. The second most frequently reported disadvantage is a lack of available space. According to experts, container dwellings that are linked to mains power and water must fulfill Finnish criteria. Laws and permissions are less of a concern if the container has its own system and is movable. He also underlined in interviews that containers may be an excellent option when traditional housing becomes unfit for any reason, as well as the rise in temporary housing for emergencies and pleasure purposes, such as utilizing Airbnb.

That's exactly what I wanted. It's fascinating to consider the possibilities that containers provide in comparison to traditional constructions. Furthermore, the growing demand for temporary housing generates an increasing number of business opportunities as the world grows.

One of the most popular misunderstandings regarding container houses is that they are unappealing as a dwelling choice since they resemble steel containers on the exterior. When you walk into a full-fledged container house, you will notice that it is outfitted with the most common appliances, as well as insulation, walls, ventilation systems, and modern kitchens and bathrooms. It may also be utilized as a cottage or holiday rental due to its mobility. Many demo versions can be displayed at trade shows to achieve this recognition. This solution allows clients to experience what it's like to live in a container house for themselves. Once the customer is interested, the salesperson can advertise customized container homes based on the customer's preferences. Overall, showing the sample versions at public events is a good way to build awareness about container houses and get them into Finnish markets.

## 5 Conclusion

Container homes are by far the quickest to construct when compared to other choices. The most basic installation of a whole container house might take days to weeks. The container home can alternatively be prefabricated and transported to the site. Residential container houses, on the other hand, may be delayed by municipal construction rules owing to permission and site needs for future development. Container homes, on the other hand, are nevertheless rapid in terms of construction productivity, but other more sophisticated buildings typically take months to a year, depending on budget and work force. We discovered that there are several uses for containers based on our study in the Alternative Uses of Containers section.

To keep current, we recommend following these distinct container building trends. Other structures, such as pools, garages, saunas, and so on, should be included in your inventory because containers may be used to make a variety of products. According to interviews with chosen expert sections, construction prices for container houses might vary from nation to country. I'd like to point out that containers are quite mobile, so it could be worth building a house somewhere with minimal construction costs and then transferring it to your final destination. Consider incorporating additional content that is relevant. Based on a survey of alternatives and rivals, it is apparent that wooden interior components such as wooden flooring and huge windows are the most pleasant for Finns.

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## References


