

Listed company name Lib Work Co., Ltd.  
Name of Representative Chikara Seguchi President and Representative Director  
(Code : 1431, Tokyo Stock Exchange Mothers / Fukuoka Stock Exchange Q-Board)  
Inquiries Yoshiyuki Nanke, Executive Officer and General Manager, Corporate Planning Department  
TEL. +81-968-44-3559

## **Japan's First 3D-Printed Model House Completed Using Earth as the Primary Material**

Lib Work Co., Ltd. (hereinafter, the "Company") has successfully constructed Lib Earth House, an innovative house that used a 3D printer for construction. The project is characterized by the use primarily of naturally derived materials. In particular, earth is used as the primary building material to make the house environmentally friendly and contribute to achieving a sustainable society.

### **1. 3D-printed housing Lib Earth House "modelA"**

Housing that utilizes a 3D printer for construction substantially reduces related costs, shortens construction periods, and leads to solving the main issues facing the construction industry, such as the aging of craftspeople, especially carpenters, and worker shortages. The Company, therefore, believes that it will bring new value to the housing market and help solve these major issues.

Moreover, the 3D-printed housing developed by the Company uses earth as its primary material, so it is a new construction method that is uniquely innovative and contributes to the circular economy.

\* Based on the Company's survey (as of January 2024); regarding a completed 3D-printed model house using earth as the main material.

#### Consideration for sustainability and the environment

Earth, the main material, is a naturally derived and readily available resource. For this reason, it greatly cuts carbon dioxide emissions compared to typical construction and reduces the impact on the environment.

#### Promotion of the circular economy

Earth, a reusable resource, is consistent with the principles of the circular economy. Its use minimizes waste and allows the ultimate return of the house to nature to contribute to achieving a sustainable, recycling-based society.

#### Low construction costs

As earth is the main material, construction costs can be reined in. Earth is readily available, and the use of local resources can reduce transportation and processing costs as well. This leads to bringing down the construction costs of the house.

### Better design

The use of 3D printer technology vastly improves the design beyond conventional approaches, allowing the construction of housing with high design quality impossible to build by hand. This, in turn, makes it possible to build more individual houses, which previously had not been possible.

### Shorter construction period

Building a house using a 3D printer is faster and more efficient than conventional methods. This dramatically reduces the construction process and makes it possible to build the house in a short period of time. Reducing the construction process also helps to reduce costs.

### Harmony with Japan's environment

The main material used for the house, earth is a familiar material in Japan owing to its use as a wall material since antiquity. It offers exceptional moisture control and insulating properties, making it optimal for Japan's high-temperature and humid climate.

Thanks to these characteristics, the Company's 3D-printed housing, with its innovative and sustainable construction method, reduces environmental impact and provides new economic and social value. In line with its mission, "Bringing innovation to housing based on sustainability and technology," the Company believes that 3D-printed housing embodies its commitment to a sustainable future.





3D-printed housing Lib Earth House “modelA” (Construction site: Yamaga City, Kumamoto Prefecture)

## **2. Future vision of housing construction project on Mars using a 3D printer**

As a new challenge, the Company is seeking to build housing on Mars. This marks a departure from conventional space exploration projects and would use an innovative and sustainable approach. The goal is to build houses using a 3D printer and the materials found on Mars.

The key feature of the project: A sustainable Martian colony using soil as the main material.

The main materials would not be transported from Earth; rather, the soil on Mars would be used as the main material. This would minimize the use of resources from Earth and contribute to sustainability and the circular economy on a universal scale.

### Major cost reductions

The construction method envisioned, in which soil on Mars would be used to build housing using a 3D printer, is expected to significantly reduce costs compared to conventional space exploration projects, raising the overall economic viability of such a project.

### Fast and efficient construction method

Construction using a 3D printer is more efficient as it requires less human labor. The actual physical work would be performed using a programmable robot, which is expected to complete the construction process in a short period of time and lead to reduced waste as a result of the improved construction efficiency. This will also reduce space debris.

### Optimization of resources on both Earth and Mars

This project will make the most of resources on Mars, minimize the requirement to transport resources from Earth, and help establish a base for space development in the future.

Comment from Representative Director and President Chikara Seguchi

“This project will play a key role in future space development that pursues sustainability and efficiency. We will make the most of resources of both Earth and Mars to take on the challenge of building a new housing environment.”



Rendering of housing project on Mars

### **About Lib Work**

Based on the slogan, “Changing how we live to change the world and create the future” and in accordance with its mission, “Bringing innovation to housing based on sustainability and technology,” the Company develops multifaceted businesses that go beyond its detached housing business. In the field of digital marketing, the Company operates e-toti.net, a real estate search website, and other websites for specific categories, as well as the “Lib Work ch” YouTube channel. Through these initiatives, the Company pursues the strategy of attracting customers based on needs. The Company has also developed a subscription-based business for construction companies throughout Japan called My Home Robo, a search system for new home plans. In addition, the Company engages in a platform business that includes IP license sales of “niko and ... EDIT HOUSE,” a detached housing product developed jointly with Adastria Lifestyle Creation. As part of sustainability initiatives, the Company is researching and developing 3D-printed housing. The Company continues to pursue initiatives toward a sustainable future.

Company: Lib Work Co., Ltd. ( <https://www.libwork.co.jp> )

Representative: Chikara Seguchi, Representative Director and President

Location: 178-1 Nabeta, Yamaga City, Kumamoto Prefecture

Established: August 1, 1997

Paid-in capital: ¥1,014,773,198

Business: Design, construction, and sale of detached housing that attract customers through digital marketing, and other real estate businesses