

Japan Builds 3D-Printed Station

VOCABULARY WORDS

1. **Reinforced** (adjective) /ˌriːɪnˈfɔːrst/: Made stronger, typically by adding material or support.
Example: The reinforced concrete ensures the building can withstand earthquakes.
2. **Demolished** (verb) /dɪˈmɒlɪʃt/: To completely tear down or destroy a structure.
Example: The old building was demolished to make room for a new shopping mall.
3. **Foundation** (noun) /faʊnˈdeɪʃən/: The base or groundwork on which a structure is built.
Example: A strong foundation is necessary to support a tall skyscraper.
4. **Homage** (noun) /ˈɒmɪdʒ/: A respectful gesture or tribute to honor something or someone.
Example: The movie was created as a homage to the director's favorite classic films.
5. **Adaptability** (noun) /əˌdæptəˈbɪlɪti/: The ability to adjust or change to fit new conditions or purposes.
Example: The adaptability of 3D printing makes it useful for various industries.



A railway company in Japan, JR West, is creating the world's first train station built using 3D printing technology. This innovative station will replace an old wooden structure at Hatsushima Station, located in Wakayama prefecture, approximately 90 kilometers south of Osaka. JR West is partnering with Serendix, a company specializing in 3D-printed housing, to complete this project. The goal is to bring a modern, durable solution to a small station while maintaining its size at 10 square meters.

The new station will feature a stronger design as it will be constructed from reinforced concrete. The foundation and walls will be printed at an off-site facility, allowing for quick assembly. Once the parts are ready, the old station will be demolished, and the new one will be installed within

six hours, between the departure of the last train and the arrival of the first train the following morning. This fast and efficient process highlights the adaptability of 3D printing in construction.

As a nod to the local area, the new station's design will include an orange slice printed onto one of its walls. This detail pays homage to Arida city, known for its famous mandarin oranges. JR West has shared concept images of the station, showcasing this personalized touch. The company is emphasizing both functionality and local culture in this groundbreaking project.

One of the major benefits of 3D printing is reducing the need for human labor. As Japan's population ages and fewer people work in construction, 3D printing could become a vital solution. It offers a way to build structures like train stations faster, with less effort, and more cost-effectively, meeting the demands of modern society.

The Hatsushima Station project is set to begin after the last train departs on March 25. This marks a new chapter in combining cutting-edge technology with community infrastructure. If successful, it could pave the way for similar projects across Japan and beyond.

DISCUSSION

1. If you could 3D print a train station anywhere in the world, where would it be and what special feature would it have?
2. Imagine you are a designer for JR West. What unique elements would you add to this station to represent Japan?
3. If 3D printers could create anything instantly, what would you want to build for your city?
4. How might 3D printing change the way we live in the next 50 years?
5. If Hatsushima Station could talk after its transformation, what might it say about its "new life"?
6. What challenges do you think the workers might face during the six-hour station replacement?
7. How could 3D printing be used to preserve traditional architecture while improving its durability?
8. If JR West wanted to promote the project with a video, what creative story would you propose for the ad?
9. Imagine living in a city where everything is 3D-printed. What would you love or dislike about it?
10. If you were to design a themed train station, inspired by nature or technology, what theme would you choose?