



January 19, 2023  
Teijin Limited  
Fujitsu Limited

**Fujitsu and Teijin start joint trials with V Frames and Advanced Bikes to enhance environmental value of recycled carbon fiber used in the manufacturing process of bicycle frames**

**Tokyo, January 19, 2023** – Fujitsu Limited and Teijin Limited (hereinafter Teijin) today announced the launch of a joint project running from January to March 2023 to enhance the environmental value of recycled resources in the production of bicycle frames together with V Frames GmbH (hereinafter V Frames) (1), a German manufacturer and distributor of carbon fiber reinforced plastic bicycle frames, and E Bike Advanced Technologies GmbH (hereinafter Advanced Bikes) (2), a German manufacturer of bicycles.

As part the trials, Teijin and Fujitsu will leverage a blockchain-based commercial platform launched in July 2022 to promote the sustainable use of recycled materials, tracing and management of greenhouse gas (GHG) emissions within the environmentally-conscious bicycle industry.

By implementing a business model that maximizes the environmental value from recycled materials, Teijin and Fujitsu aim to contribute to the further development of the carbon fiber recycling market and the realization of a circular economy. Following the successful conclusion of the joint trials, Teijin and Fujitsu will promote the implementation of the new platform, with the aim of commercialization in fiscal 2023.

**Background**

In Europe, many bicycle manufacturers use frames manufactured in Asia, and many of these frames are also ultimately disposed of in landfills in Asia. Energy consumption during long-distance transportation of resources including materials and used frames across the supply chain represents one major reason why resources are often not recycled and disposed of in a sustainable manner. In order to contribute to the reduction of GHG emissions from its business operations, V Frames utilizes local resources in Germany and recycles used frames in its bicycle production.

Within this joint project, Teijin and Fujitsu will conduct trials together with V Frames and Advanced Bikes to visualize the results of V Frames' efforts to reduce GHG emissions in its

production process, with the aim to foster a shared awareness towards the environmental value of recycled materials within the environmentally-conscious bicycle industry and industries handling carbon fibers.

## **Outline of the joint trials**

### **1. Purpose of the trials**

- Track and manage information on the environmental impact of materials used in bicycle frame production, evaluate the feasibility of the data collection process and evaluate the value of the visualized tracked data to enhance the environmental value of recycled resources in the production of bicycle frames

### **2. Roles and responsibilities**

#### **Teijin:**

- Support of environmental assessment across the different processes and engagement of stakeholders toward the creation of an ecosystem

#### **Fujitsu:**

- Implementation of blockchain platform based on the Fujitsu Track and Trust digital ledger technology and development of tool for visualization and provision of tracked data

#### **V Frames and Advanced Bikes:**

- Upload of environmental impact information for different operational processes within the company to the platform; review of data collection and visualization process

### **3. Period**

January 2023 - March 2023 (planned)

### **4. Future vision and goals**

- Creation of “digital twins” to manage resources: information about resources (including their location, condition, environmental impact, etc.) used/generated in the business operations from the recycling to sales process of bicycle frames will be uploaded and provided on the platform to create digital replications (digital twins) of physical resources and manage information on their condition; using blockchain technology, the platform will also offer past data on the condition of resources;
- Disclosure and utilization of data: data from the platform can be used to share information on resources (origin of resources etc.) with bicycle users or utilized by various stakeholders in their carbon management; data on the platform can further be used as proof for the successful realization of a resource cycle and utilized for future ESG investment evaluations or as credits

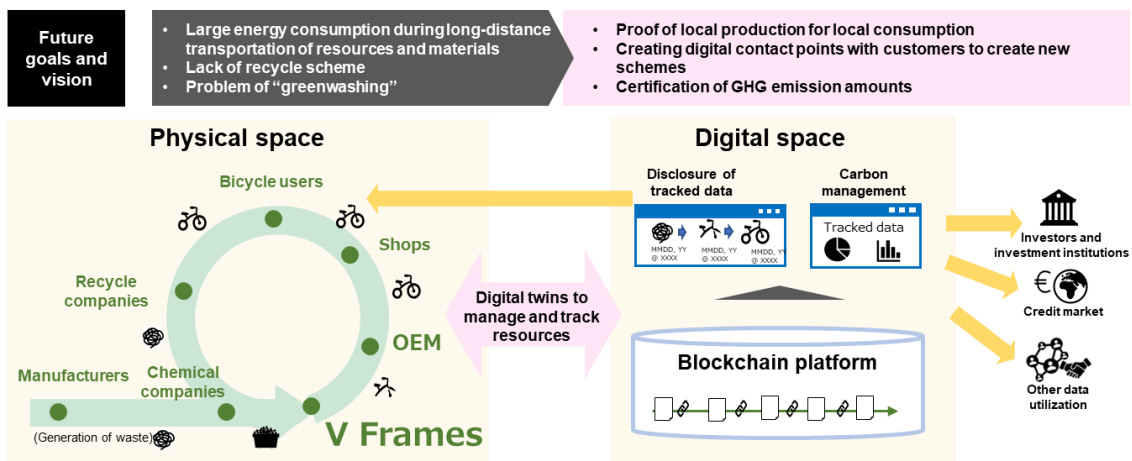


Figure: Future vision of the project

## Future plans

Following the joint trials, Teijin and Fujitsu will promote the implementation of the new platform, with the aim of commercialization in fiscal 2023. Moving forward, the two parties will further promote discussions and field trials with partner companies and organizations that support this initiative and will work to contribute to the realization of a circular economy by supporting the growth of the recycling market in various industries.

In order to realize a sustainable society, Teijin will provide innovative, people-centered solutions that improve peoples' quality of life. Teijin will further strive to mitigate the impact of its business activities on the environment and society to realize its long-term vision "to be a company that supports the society of the future."

Fujitsu is promoting "Sustainable Manufacturing" to achieve growth through the coexistence of people and the earth as one of its key focus areas under its global business brand, Fujitsu Uvance.

## Notes

### 1. V Frames GmbH:

Head office: Saalfeld, Germany; Co-founder/ Managing director ISOCO: Michael Müller

### 2. E Bike Advanced Technologies GmbH:

Head office: Frankfurt am Main; Co-Founder and CEO: Helge von Fugler

## Related Links

- Teijin and Fujitsu agree to jointly develop blockchain-based commercial platform to promote sustainable use of recycled materials (press release, July 12, 2022): <https://www.fujitsu.com/global/about/resources/news/press-releases/2022/0712-01.html>

## About Fujitsu

Fujitsu's purpose is to make the world more sustainable by building trust in society through innovation. As the digital transformation partner of choice for customers in over 100

countries, our 124,000 employees work to resolve some of the greatest challenges facing humanity. Our range of services and solutions draw on five key technologies: Computing, Networks, AI, Data & Security, and Converging Technologies, which we bring together to deliver sustainability transformation. Fujitsu Limited (TSE:6702) reported consolidated revenues of 3.6 trillion yen (US\$32 billion) for the fiscal year ended March 31, 2022 and remains the top digital services company in Japan by market share. Find out more: [www.fujitsu.com/](http://www.fujitsu.com/)

### **About the Teijin Group**

Teijin (TSE: 3401) is a technology-driven global group offering advanced solutions in the fields of environmental value; safety, security and disaster mitigation; and demographic change and increased health consciousness. Originally established as Japan's first rayon manufacturer in 1918, Teijin has evolved into a unique enterprise encompassing three core business domains: high-performance materials including aramid, carbon fibers and composites, and also resin and plastic processing, films, polyester fibers and products converting; healthcare including pharmaceuticals and home healthcare equipment for bone/joint, respiratory and cardiovascular/metabolic diseases, nursing care and pre-symptomatic healthcare; and IT including B2B solutions for medical, corporate and public systems as well as packaged software and B2C online services for digital entertainment. Deeply committed to its stakeholders, as expressed in the brand statement "Human Chemistry, Human Solutions," Teijin aims to be a company that supports the society of the future. The group comprises some 170 companies and employs some 20,000 people across 20 countries worldwide. Teijin posted consolidated sales of JPY 926.1 billion (USD 7.2 billion) and total assets of JPY 1,207.6 billion (USD 9.4 billion) in the fiscal year that ended on March 31, 2022

### **Press Contacts**

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