

To Whom It May Concern

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GSI Creos Corporation  
Corporate Planning Department  
Planning & Public Relations Division,

## **GSI Creos Begins Demonstration experiment of Semi-Transparent Organic Photovoltaics (ST-OPV) with SDRS**

**—Validating on-site generation, energy savings, and resilience from the window—**

GSI Creos Corporation (Head Office: Minato-ku, Tokyo; President & CEO: Tadaaki Yoshinaga) today announced the start of a joint demonstration experiment of semi-transparent organic photovoltaic (ST-OPV) window films with SDRS Inc. at SDRS's Akagi site (large conference room). This project aims to advance social deployment of next-generation renewable energy by verifying the combined benefits of on-site power generation, energy savings via solar heat rejection, and resilience. The initiative aligns with Japan's Green Transformation (GX) policy—mainstreaming renewables, strengthening building energy efficiency, and expanding distributed energy—and targets S+3E (safety, energy security/stable supply, economic efficiency, and environment). Future deployments are planned at municipal facilities and commercial sites that serve as evacuation hubs during disasters.

### **【 Background and Objectives 】**

The experiment is conducted at south-facing large conference room with extensive glazing. That room has long suffered from significant solar heat gain. Even with blinds, air conditioning performance was insufficient.

This experiment is to apply ST-OPV window films across the glazing and evaluate followings:

- Verify power supply capability to vending machines manufactured by SDRS(both refrigerated and non-refrigerated).
- Evaluate the reduction in HVAC (Heating, Ventilating, and Air Conditioning) output attributable to solar heat rejection.

If this trial demonstrates sufficient power generation and heat-rejection effects, the deployment will expand to the building's large cafeteria, covering the south-facing glazing.

Beyond on-site benefits for SDRS, the project is intended to present proposals to national and local governments for "self-reliant resilient evacuation hub." It will offer local recreation facility with lower operation cost as well as lower CO2 emission through ST-OPV's energy saving and generation features. When a disaster occurs, it will work as a shelter.

By combining non-toxic ST-OPV (free of lead and similar hazardous substances) applied to windows with battery storage and SDRS-manufactured vending machines (refrigerated and non-refrigerated), the goal is to ensure minimum lifeline services during power outages for at least 72 hours—such as lighting, communications, device charging, and availability of beverages and essential supplies.

With more than 20 maintenance locations nationwide, SDRS aims to provide end-to-end services—operations, maintenance, and recovery—on a one-stop basis for customers.

## 【 Demonstration overview 】

### Site:

S D R S Inc. Akagi site

### Duration:

- Phase 1: April 2026 – April 2027 (approx. 1 year)
- Phase 2: April 2027 – April 2028 (approx. 1 year)

### Partners:

SDRS Inc.

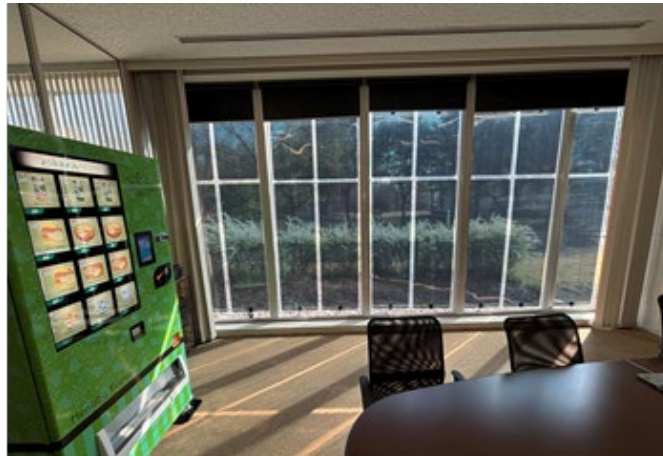
Ouroboros Power Harvesting Corporation (GSI Creos's subsidiary)

### Installation area:

- Phase 1 (Large conference room): approx. 10 m<sup>2</sup> (18 x ST-OPV films)
- Phase 2 (Large cafeteria): approx. 150 m<sup>2</sup> (270 x ST-OPV films)

### Evaluation scope:

- Power generation performance of interior-applied ST-OPV (kWh/m<sup>2</sup> by orientation, season, and illuminance)
- Low-illuminance output characteristics
- Peak-load reduction (peak shaving) effects
- Install ability and solar heat-rejection performance
- Power-supply performance to refrigerated equipment



ST-OPV module we have implemented and the SDRs vending machine

## 【 About S D R S 】

S D R S Inc. operates globally with “cooling and heating” as its core technologies to support people’s quality of life. Leveraging advanced technologies, SDRS develops environmentally responsible products and conducts business activities that address social challenges such as labor shortages, logistics bottlenecks, food shortages, and food-loss reduction.



### **【 About GSI Creos Corporation 】**

GSI Creos has 9 business locations in Japan and 27 overseas and is engaged in both the "textile" and "industrial products" businesses globally. It is a business creation-type trading company engaged in a wide range of fields, including textiles, raw materials, fabrics, apparel products, chemicals, hobby products, machinery, semiconductor components, and nanotechnology by making full use of our domestic overseas networks.

Our purpose is to **"As a "business producer" seeking quality of life for the next generation, we realize the happiness of all the people."** Guided by this vision, we promote ESG management with the goal of addressing social issues and contributing to the realization of people's happiness.

#### **< Contact point for inquiries regarding this matter >**

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