

Demonstration project for industrial production technology of non-edible biomass-derived resin
(Green Chemical Inc.)



Green Chemical

City	Year of Establishment	Founder
Fujisawa City, Kanagawa Prefecture	2018	Kinryo Chou

Partner VC	Latest round of Fundraising	Valuation
Innovations and Future Creation Inc. (MIRAI SOUZOU)	Pre-series A	Non-Disclosure

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○ Business Plan

Aiming for a sustainable society through bioplastic production, we develop industrial production technology for biomass plastic feedstock using sugars made from abundant but unutilized inedible biomass resources such as pulp and rice husks. The aim is to efficiently and with high purity production of the following three chemical resources: hydroxymethylfurfural (HMF), 2,5-furandicarboxylic acid (FDCA), and 2,5-bis-aminomethylfuran (BAF).

○ Research Outline

In this research and development project, we aim to solve the mass production challenges of a continuous production process from non-edible biomass-derived sugars to HMF/FDCA production.

- (1) Demonstrate the scale-up of FDCA production using the improved process.
- (2) Based on the results of polymerization tests and functional evaluation of PEF resin by an external institute, we confirm the specifications of FDCA and the possibility of substitute for conventional PET resin.
- (3) Calculate the CO2 emissions of FDCA production by the improved process.
- (4) Present samples of PEF bottles produced from FDCA at trade exhibitions and other events, with the aim of acquiring scale-up verification partners for commercialization.
- (5) Establish an efficient production method for BAF.

Business Area/Field	Research Period	Research Grant Amount	International collaborative technology demonstration
MaterialsI	STS 2024～2025FY	JPY 280 million	—

Development of Functional Conducting Additive Using Innovative Carbon Material GMS（3DC Inc.）



City	Year of Establishment	Founder
Sendai, Miyagi	2022	Takuma Kuroda Hiroto Nishihara

Partner VC	Latest round of Fundraising	Valuation
ANRI Inc.	Pre Series A	Non-Disclosure

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○ Business Plan

This project focuses on researching and developing the application of GMS (Graphene MesoSponge), an innovative carbon material invented at Tohoku University, as a conductive additive for lithium-ion batteries (LIB). We aim to address the critical design challenges of lithium-ion batteries that are difficult to solve with conventional carbon materials lacking structural controllability. By utilizing GMS, which enables precise structural control, we will develop it into a functional conductive additive.

○ Research Outline

The functional conductive additive GMS to be developed in this project is a material that combines high voltage resistance, electrolyte transportability, and flexibility against compression, which are difficult to achieve with conventional CBs and CNTs.

This project includes the following research and development objectives.

- (1) Development of products with higher cost competitiveness and performance.
- (2) Development of dispersion products.
- (3) Design for mass production.

Business Area/Field	Research Period	Research Grant Amount	International collaborative technology demonstration
Materials	STS 2024～2026FY	JPY 499 million	—