

New Business Creation that Contribute to Sustainability

Supporting “Drug Discovery–Manufacturing–Treatment” in Regenerative Medicine

The advancement of the medical field is essential for realizing a prosperous and sustainable society. In particular, the field of regenerative medicine is expected to provide treatments that conventional medical technologies cannot achieve. Together with our group company, Cellab Healthcare Service Co., Ltd. (hereinafter “Cellab HS”), Dai-Dan contributes to the development of the industry by supporting the front lines of “drug discovery–manufacturing–treatment” in regenerative medicine.

Cellab HS began shipping investigational drugs last year for “cancer immunotherapy for intractable rare diseases” developed by Gaia Biomedicine. The investigational drugs are manufactured at the “Cellab Tonomachi” facility (License No.: 14FZ110006), which has obtained a license

for manufacturing regenerative medicine products, and shipments are scheduled to continue in FY2025.

In response to the steady progress of this business, we have established a new cell manufacturing base, “Cellab Kawasaki,” which can flexibly accommodate small-lot production to meet high customer demand. By adopting our proprietary cell culture processing unit “All-in-One CP Unit™ (AIO)”, we have realized flexible expansion of the manufacturing environment in line with business speed. This facility is also available for rental, and we have launched a new service, “Flat AIO™,” which combines rental with “operational support” for cell manufacturing—a feature highly requested by our customers.

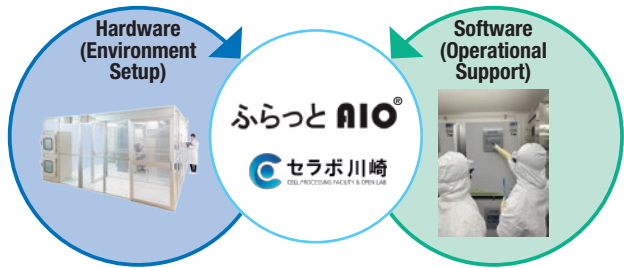
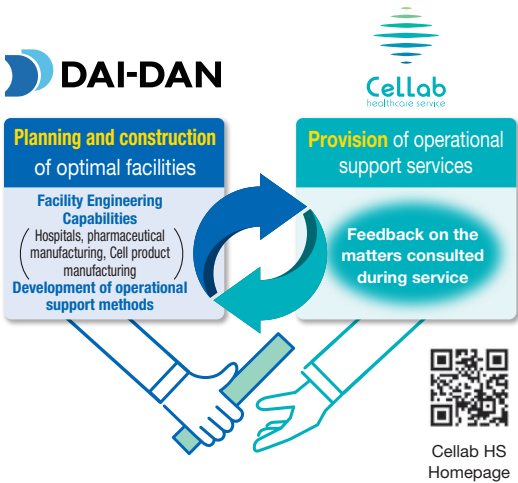
Total solutions for hardware (environmental setup) and software (operational support)

In the process of providing advanced medical care, clean environments tailored to specific uses are required not only in medical institutions but also in manufacturing and research facilities. In many cases, if facilities are constructed without a clear operational vision, deficiencies arise after operations begin, resulting in the need to continue burdensome operational management.

At Cellab HS, our construction division, which inherits Dai-Dan’s construction expertise, and our contract cell manufacturing service division work together to solve these challenges. By bringing together professionals in hardware (environmental construction) and software (operational support), we consistently propose plans that optimize the balance between facilities and operations from design through to actual operation.

At our newly established cell manufacturing base, “Cellab

Kawasaki,” we offer the clinical trial drug manufacturing support service “Flat AIO™” to venture companies and research institutions aiming to bring regenerative medicine products from research and development to market. Flat AIO™ is a service that provides solutions tailored to the customer’s situation, plans, and manufacturing stages as they move from research and development to clinical trial drug manufacturing. For example, for customers seeking comprehensive support for cell manufacturing, we offer total support for both hardware and software, from equipment rental for small-lot manufacturing environments to assistance in acquiring cell manufacturing know-how, supporting clinical trial drug manufacturing with selectable plans for each customer. As a new tool following construction and contract manufacturing, Dai-Dan provides customers with creative value.



Initiatives Utilizing Supercritical CO₂*

Supercritical CO₂ is expected to serve as a green solvent that can replace organic solvents with high environmental impact.

By utilizing this supercritical CO₂, we have developed and commercialized a cleaning and regeneration technology for organic gas air filters that previously could not be regenerated. We are also working on new applications of supercritical CO₂ technology and are actively promoting technological development that contributes to reducing the environmental burden on society.

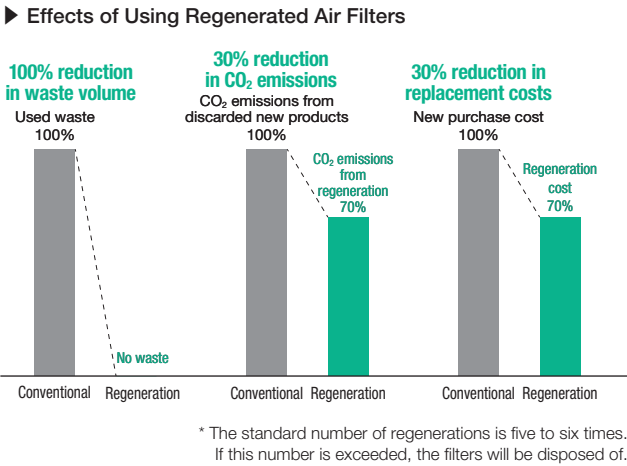
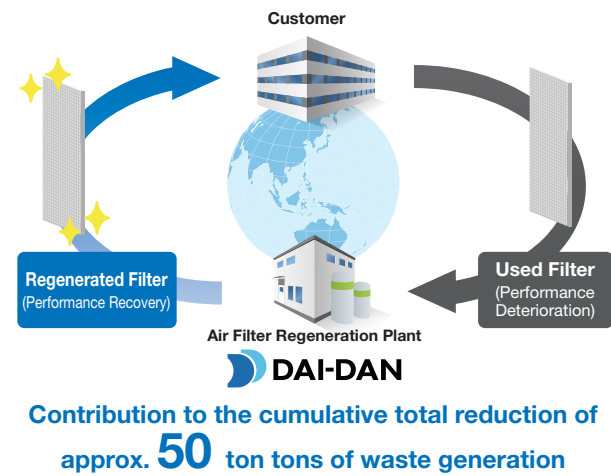
*Supercritical CO₂: CO₂ in a state where the temperature is above 31.1°C and the pressure is above 7.4 MPa (74 atm), possessing both the permeability of a gas and the solubility of a liquid.

Filter regeneration service for semiconductor factories

In semiconductor factories, large quantities of air filters are used in various manufacturing processes to clean the air, but once the filters reach the end of their lifespan, they are disposed of as waste.

At Dai-Dan, we provide a cleaning service that regenerates used air filters and returns them to customers. Regenerated

air filters can reduce replacement costs by 30% compared to manufacturing new air filters. Furthermore, since the air filters are reused, no waste is generated, and in terms of CO₂ emissions, this leads to a 30% reduction compared to manufacturing new filters.



Outlook for supercritical CO₂ technology

We commercialized our proprietary air filter regeneration technology in 2014 and possess a wealth of know-how gained from operating one of the largest supercritical CO₂ plants in Japan. We have also been broadly exploring applications in processes such as cleaning, extraction, and sterilization.

Supercritical CO₂ is a clean solvent, and due to social demands for reducing environmental impact and moving away from organic solvents, active research is being conducted on its use as an environmentally friendly solvent. Going forward, we will continue to promote new applications of this supercritical CO₂ technology to solve social issues and contribute to the environment and society.

