

**TECH OFFER**

**Modular, Easy-to-use, Cloud-based Bioreactor for Advanced Bioprocessing**



**KEY INFORMATION**

TECHNOLOGY CATEGORY:  
Foods - Processes

TECHNOLOGY READINESS LEVEL (TRL): **TRL9**  
COUNTRY: **SINGAPORE**  
ID NUMBER: **TO175071**

**OVERVIEW**

This biotechnology pertains to a modular cloud-based bioprocessing system designed to streamline and enhance the cultivation and analysis of biological cultures. Addressing the complexities and constraints of traditional bioprocessing, this technology simplifies operations, making advanced bioprocessing tools accessible to a broader range of users.

It has shown its versatility across various segments including educational institutions, research labs, biotech and bio-manufacturing companies and even within the food service industry, providing an efficient, flexible, affordable and scalable solution for growing biological cultures.

**TECHNOLOGY FEATURES & SPECIFICATIONS**

The system comprises a base bioreactor unit with multiple add-on modules, including a multitude of environmental sensors, linear peristaltic pumps, compressed gas flow regulators, and novel stirrers & boosters.

It is also controlled by a proprietary cloud-based software, which provides a number of benefits for device management. This allows the user to access the bioreactor from anywhere, monitor experiments in real-time, and receive alerts for any errors.

The modularity provides flexibility in the co-development of various bio-manufacturing applications, especially in streamlining production.

## POTENTIAL APPLICATIONS

This technology is applicable in industries ranging from bio-medical to bio-pharma to food tech to environment tech. It serves as a foundation for products like vaccines, metabolites, cultured meats, fermented foods, biofuels, adjuvants, microbial inoculants, etc. It is especially relevant for R&D departments and educational programs focused on biotechnology and life sciences.

## UNIQUE VALUE PROPOSITION

The technology surpasses current market offerings with its modular design, ease of use, flexibility and affordability, enabling users to customize their setup according to their needs without extensive training or investment, thus democratizing advanced bioprocessing.