

**TECH OFFER****Hyper-Personalization for a Total Cosmetic Solution****KEY INFORMATION****TECHNOLOGY CATEGORY:****Personal Care - Cosmetics & Hair****Personal Care - Fragrances****Personal Care - Nutrition & Health Supplements****Personal Care - Wellness & Spa****TECHNOLOGY READINESS LEVEL (TRL): [TRL9](#)****COUNTRY: [SOUTH KOREA](#)****ID NUMBER: [TO175160](#)****OVERVIEW**

As the customized cosmetics market continues to grow, the demand for cosmetics suitable to an individual's skin condition is increasing. Effective skin diagnosis and management to meet customer needs require total skincare solution products and services that enable continuous and quantitative skin care and management through accurate diagnosis. Currently, customized cosmetics in the market are less accurate in diagnosis and are limited to a small range of formulation permutations.

This technology provides a total solution to hyper-personalization of skin care formulations tailored to 40 different skin MBTI conditions from measurement, diagnosis, manufacture, to supply. Based on 98.3% accuracy through a patented skin diagnosis device, a global skin database has been developed which is capable of generating a formulation within 4 minutes. To ensure a complete pipeline solution, the technology extends into manufacturing by having a fully automated patented sterile cosmetic manufacturing equipment and system. The daily production capacity can be supplied in varying quantity of volumes. Through its

database and diagnostic technology, it is able to partner ingredient suppliers to formulate sustainable products. The company has also expanded the solution to non-beauty applications including hair care, fragrances and functional foods.

The company is looking to partner with B2B customers who is looking to leverage on the various solution packages offered including diagnosis devices, manufacturing automation equipment systems, raw materials and subscription options to begin their journey for a hyper-personalization beauty brand or to further enhance their existing personalization capabilities to establish a stronger brand presence, product differentiation and offerings.

## TECHNOLOGY FEATURES & SPECIFICATIONS

The total solution consists of:

**Fresh Manufacturing:** The manufacturing machine maintains a constant temperature and humidity and dispenses fixed amounts. Manufacturing quantity can be suited to volumes ranging from 15 ml to 250 ml with 3 different capacity machine types and size with the smallest one being compact and can be installed in beauty shops and clinics. Fully automated compounding and dispensing by using robotics.

**Smart Diagnosis:** The diagnostic device enables accurate analysis based on big data and algorithms, regardless of gender, age, or race. Up to 25,000 computations possible for skin care products and over 5 ethnic diversities.

**Personalized Cosmetics:** Customized cosmetics are formulated through analysis after diagnosis, tailored to the skin change cycle.

## POTENTIAL APPLICATIONS

The customized cosmetic solutions are exported to the United States and Hong Kong. The company is currently expanding beyond Personalized Beauty Tech to Comprehensive Personalization Tech. In 2023, a customized solution for a liquid e-cigarette company has been developed, and there are plans to develop hyper-personalized solutions in various fields, including perfumes and health supplements.

## MARKET TRENDS & OPPORTUNITIES

The hyper-personalized beauty market is projected to grow to 125 billion USD, including cosmetics and devices, over the next 5 years, with cosmetics alone reaching 78 billion USD in this hyper-scale market.

## UNIQUE VALUE PROPOSITION

The technology offer an integrated total solution that connects diagnosis to formulation.

The technology components can be categorized into 6 different aspects:

1. A camera diagnostic portable device with 60X Magnification with 98.3% of accuracy assessing redness, sensitivity, moisture, wrinkles, pores and pigmentation.
2. A high accuracy achieved through big data and algorithm (over 140,000 data sets).
3. Simplification of manufacturing system yet equipped with sterilization, disinfection, constant temperature and humidity control facilities, ensuring safety and stability. Starting from skin diagnosis results, the formulation is automatically

generated and sent to the manufacturing machine, a fully automated formulation machine.

4. Fresh Manufacturing upon order under hygienic /safe manufacturing system. While other machines are limited to serums, this machine offers a wide range of product formulations, including facial essences, skin toners, lotions, ampoules, as well as shampoos and treatments for the scalp, providing product diversity.
5. 3-types of manufacturing system enables grafting of various business model.
6. One-stop customized subscription service of total cosmetics solution.