

2021 Annual Report



In 2021, CABIO reaped RMB351,109,348.43, up by 8.55% from the preceding year. The net profit attributable to equity holders of the Company totaled RMB128,578,881.86, down by 1.54% from the preceding year. The net profit attributable to equity holders of the Company after deduction of non-recurring profit or loss hit RMB83,428,800.87, up by 1.11% from the preceding year. The human nutrition segment hit RMB 348 million, up by 7.59% from the preceding year, animal nutrition hit RMB1,807,900, personal care and cosmetics hit RMB1,155,600, and other segments totaled RMB347,600.

In 2021, CABIO bucked the trend of the global pandemic with a consistently improving stable growth in income.

In 2021, CABIO implemented a three-forked expansion strategy to consolidate its competitiveness in the human nutrition field and achieve increasing sales. In order to build an operational structure combining the principal business with two sidelines, CABIO acquired the equity of the minority shareholders of CASOV, its majority-owned subsidiary, to set up a platform for personal care and cosmetic products. It grasped the opportunities offered by antibiotics bans to set up CALID and march into the animal nutrition sector. There were mounting investments in animal nutrition, personal care and cosmetics. New operations consistently powered the fast growth of business revenue. A forward-looking company built on synthetic biology technology and exploiting biofermentation resources, CABIO pumped more money into R&D and market development in order to contribute to the big health industry, foster new business potential and solidify the groundwork for an even larger future market.

Keyword 1: Cosmetics

The SA segment maintained leaps, up by 76.79% from the previous year.

In personal care and cosmetics, CASOV, a CABIO solely-controlled subsidiary, obtained a license in June 2021 to use its SA product as a cosmetics ingredient, the first time in China. 2021 also saw great leaps in SA sales that totaled RMB55,741,990.78, convertible to a 76.79% growth year over year.

Aside from SA, CABIO adopted the lipid nanoparticle (LNP) technology to develop a combination product comprising ARA, DHA, SA, β -Carotene, astaxanthin and lycopene as a whole solution for buyers. Biosynthesis using functional materials quickly added to CABIO's share in the personal care and cosmetics market.



Market statistics project the cosmeceuticals segment to climb by a 29.4% compound annual growth rate (CAGR) for three years to come, hitting RMB58.97 billion by 2023. Cosmeceuticals will hopefully account for a larger portion of the market over time.

Keyword 2: Synthetic Biology

CABIO targeted synthetic biology by investing more in R&D.

In 2021, CABIO joined with Tianjin University, Institute of Plasma Physics of Chinese Academy of Sciences and other research institutions, in a RMB30 million CABIO-funded ongoing close collaboration program designed to culture such quality chassis organisms as yeasts, *E. coli*, *Schizochytrium* and *B. licheniformis*. High throughput screening (HTS) was applied to culturing high-performance strains, while high-cell-density fermentation (HCDF) was introduced to culture highly active products with high efficiency for ongoing future business expansion. In the report period, CABIO built a synthetic biology laboratory as a bioinformatics analysis platform where pilot research was completed for OPO and 2'-Fucosyllactose. Commercialization began and high-yield astaxanthin strains, EPA strains, 3'-Sialyllactose strains and similar strains commenced culture.

In 2022, CABIO upgraded its R&D center, originally a PE investment program, into an R&D center where an Institute of Synthetic Biology Engineering became integrated with an industrialization project. Relocated to Wuhan Biolake, the project gives consideration to the characteristics of synthetic biology and the market. It's where both lab research and manufacturing are done. CABIO works with technology and industrial teams to foster the industry, store up technologies and products for the future and set up a biosynthetic technology platform.

CABIO will coordinate technologies across such processes as strain selection, fermentation, extraction & refinement, microencapsulation, commercial application, high-precision testing & analysis, bioengineering and other existing processes on a high-efficiency platform that supports new product development and new technology applications & industrialization and solutions. The effort is intended as a platform to boost ongoing technological innovations and buildups.



Keyword 3: Big Health

CABIO centralized DHA resources on the big health industry and employed microencapsulation to diversify applications.

The Food and Agriculture Organization (FAO) and the World Health Organization (WHO) confirm DHA to be beneficial to infants' brain and retina growth. Research has also shown DHA to have such prominent effects as blood sugar regulation, memory improvement, emotional stabilization and Alzheimer's disease (AD) alleviation. Multiple investigations have shown that DHA supplementation is essential to all age groups. It is well known that omega-3 fatty acids, widely applied in human nutrition, animal nutrition, personal care & cosmetics and biomedicine, promise gigantic market potential due to many theoretical functions. As supplementation of omega-3 fatty acids DHA and EPA gains in popularity, DHA is emerging as an essential element of daily meals in the framework of inclusive health. Market statistics have expected the global omega-3 market to hit USD3.69 billion by 2025.

In the past over two decades, CABIO has created opportunities to apply its cutting-edge microencapsulation technology to many fields like health foods and functional foods. Microencapsulation uses macromolecular substances to encapsulate solid particles, liquid drops and gaseous substances to manufacture semipermeable or sealed microcapsules. As a globally known healthy material supplier, CABIO developed its own LT secondary microencapsulation system which locks a great amount of fatty acid-enriched lipids in food-grade wall materials and keep the oxidation and smell of omega-3 fatty acids under effective and secure control. Microencapsulation can provide a longer shelf life, improve the food aftertaste and address such diverse requirements as ingredients, fun, health, naturalness and high technology. It's extensively applied in infant formulas, dietary supplements, functional food, foods for special dietary uses (FSDUs) and foods for special medical purposes (FSMPs). Microencapsulation is powering the involvement of its DHA business fully in the big health industry as its application expands continuously.

In addition, CABIO has prepared an omega-3 fatty acid product line revitalization plan intended to introduce a comprehensive innovation package by developing more strains and products of diverse types and shapes. Fish oil-derived DHA, high-content EPA, phospholipid-enriched DHA and other DHA versions enriched in other nutrients will be released to meet the needs of different buyers with an advanced and widely-applied



diverse product line. CABIO manages its material operations from the perspective of the customer so as to stimulate new market potential for omega-3 fatty acid DHA.

Keyword: New GB Standards

Targeting what the New GB Standards promise, CABIO upgraded product formulas to center on buyer needs.

In early 2021, China officially released the new national food safety standards for infant formula (“New GB Standards”) which had been discussed in bills for years. They include an addition to the 2010 standards – fortified quality and nutrition. The New GB Standards stipulate the minimum content of DHA, and that the DHA to ARA ratio shall be no less than 1:1. Market potential for CABIO’s main products – ARA and DHA – experienced a further leap.

CABIO has grasped the opportunity to establish a New GB Standards Compliance Committee to improve needs for more nutrition-enriched microcapsule formulas and provide buyers with key such measures as legal assistance so that they admit CABIO as a supplier of ingredients of formula milk powder. Centering on customer needs, CABIO is improving customer stickiness and grabbing more market shares. By now, CABIO has obtained new formula ingredient supply approvals from famous brands as Yili® Jinlingguan®, Junlebao® Qizhi® and Wyeth® Ultima®. The fulfillment of New GB Standards is quicker and quicker.

Keyword 5: International Market Expansion

CABIO has erected an overseas promotion platform, achieving more international sales.

In 2021, CABIO erected an overseas promotion platform to add to brand influence, expand application scenarios and grabbing more market shares. In 2021, CABIO’s algal oil-derived DHA obtained FDA GRAS and USDA Organic accreditation, signifying the entrance into the U.S. and other international markets.

In 2021, CABIO achieved significant success in global market development. International customer development went smoothly and CABIO passed the global supplier audits of multiple international customers like Danone and Nestlé Commercial supply to Nestlé began in 2021 and is projected to climb continually in 2022.



Statistics show that when the last DSM patent expires before 2023, bans on overseas market expansion will be lifted. CABIO products are expected to secure a further upsurge on the international market.

