# **Introduction of China Mengniu Dairy Group**

## 1. A Glimpse of Mengniu and Helingeer Plant No.4

Founded in 1999 and headquartered in Hohhot, Inner Mongolia Autonomous 1.1 Region of China, China Mengniu Dairy Co., Ltd. has established 43 domestic production bases together with 68 factories globally across the overseas production bases in New Zealand, Indonesia and Australia, boasting a combined annual production capacity of more than 12 million tonnes. Its Australian subsidiaries include Burra Foods, a raw milk processor, and Bellamy, an organic baby food provider. It has been selected as one of the top 20 companies in the global dairy industry for 13 consecutive years, and will be ranked 7th in the global dairy industry in 2022, and is hailed as one of the top 500 companies in the world's most valuable brands; With the vision to meet consumers' demand for increased nutrition and better health, the company's diversified offerings range from liquid milk to ice cream, milk powder, cheese and then to other categories for consumers around the world; Mengniu boasts a variety of best-selling brands such as Deluxe, Chunzhen, the Champion series, YoyiC, Fresh Everyday, Bellamy and so on. Among them, the sales revenue of ambient liquid milk exceeded 78.2 billion yuan in 2022, occupying a lion's share in China.



1.2 Mengniu Dairy (Helingeer) Plant No.4 was put into operation on December 3, 2003, with a total investment of 1.14 billion yuan, covering an area of 130,000 square meters, a building area of 66,800 square meters, and a main workshop of 29,600 square meters. It is the largest producer in terms of mid-to-high end milk, with the most amounts of products in those categories. In 2019, The No.4 Plant was selected as "TPM pioneer plant of Mengniu Dairy Group"; The No.4 Plant is equipped with 15 production lines, output reaches 1173 tons per day. The product includes 5 major categories and 89 products. The products are sold to overseas countries such as Singapore, the United States, and Cambodia. There are 525 home employees and 203 employees engaged in outsourcing.



# 2. Milestone on the Journey of Manufacturing Excellence

2.1 Pressure and challenges in quality

1. Market Competition: The business unit has continuously introduced new product line-ups to be aligned with the diversified market and personalized demand so that we gain an edge in the market. The Plant No.4 will introduce more vigorous product quality management efforts; 2. Customer Demand: Consumers' increased expectations for nutrition and healthier content have motivated Mengniu to roll out high-end products in essential categories to step up brand competitiveness. The Plant No.4 is a major contributor to high-end products and hence needs to further improve product quality to enable a more competitive brand; 3. Supply Chain Risks: As we make unwavering efforts to improve product quality, suppliers' raw materials should be in line with this effort and interactive dynamics should be built between the plant and suppliers to reinforce each other; 4. Product Quality Control: An increasing number of SKUs of Plant No.4 have posed a major challenge to raise the bar in process complexity and product quality.

# 2.2 Pressure and Challenges in Environmental Protection

The Group plans to build a number of zero-carbon, waste-free and landfill-free plants, and carry out green packaging and biodiversity conservation initiatives. Bearing the goal in mind, that is, *Achieving Carbon Neutrality along the Whole Industrial Chain by 2050*, Plant No.4 will be aligned with the Group's strategy, and will need to redouble its efforts to cap carbon emissions and waste.

#### 2.3 Pressure and Challenges in Cost

Due to the pandemic disruption and economic downturns, the rapid growth of domestic players, China's dairy market sales have slowed down and the growth rate of liquid milk is declining, which requires the plant to reduce costs and improve efficiency.

Judged from analysis of consumption data, small convenient channels and online shopping channels grow faster. The plant continues to increase new products to meet consumer demand, which brings about increases in costs, the need for continuous improvement to reduce production costs.

#### 2.4 TPM activities in Plant No.4

Mengniu Dairy (Helingeer) Plant No.4 was the first to introduce TPM as a pioneer across the whole organization while successively implementing various management methodologies including 5S, DMS, FI, AM, PM, QM, SH, E&T, Env, EM and OM. Under the management concept Factory-wide Engagement and Continuous Improvement, it boasts an uninterrupted record of robust TPM activities through which its overall performance indexes have been achieved, hence actualizing its strategic objectives and Mengniu Diary Group's strategic visions in general.

#### **3** Benefits of TPM activities

3.1 Improvements and Tangible Business Outcomes

January-September 2023 data vs. 2018 (before TPM implementation):

OEE improved by 2.82%;

Labour productivity per capita improved by 1.37 tonnes/day/person, an increase of 23%;

Equipment failure rate decreased by 49%, MTBF increased by 5 hours, MTTR shortened by 19 minutes, a 38% decrease rate;

A 71 per cent drop in production line short stop time and a 25 per cent drop in CIL time;

Overall customer complaint rate decreased by 18%, of which the complaint of highend product Deluxe decreased by 47%, and that of Chunzhen decreased by 51%;

Band-Aid incidents decreased by 80%, and the rectification rate of all safety issues increased to 100%;

Production cost savings per tonne improved by 112%;

Single-tonne solid waste down 18%, single-tonne carbon emissions down 10% from 2020;

Morale: rational suggestions improved by 4 times, improvement groups improved by 3.6 times, standardization completed by 6 per capita, independent research and development of innovative technology improved by 5 times, and training time per capita improved by 2.5 times.

3.2 Employee Participation, Motivation, and Other Intangible Improvements Happen

The understanding and application of TPM improvement methodology by all employees has cultivated their ability to identify and prevent losses, created an atmosphere of full participation and continuous improvement, and continuously improved the work environment and employee morale through activities.

## 4 Key of Manufacturing Excellence

In conjunction with the plant's strategic analysis, new challenging goals need to be established to enhance the plant's competitive advantage. We have faithfully implemented pillar management methodology and established a daily evaluation system; We've also extended loss improvement from a plant perspective to the supply chain;

Process loss activities need to be further expanded and implemented for continuous improvement, with plans to establish a zero-loss system and a management standard that expands from a single machine to the entire production line;

The plant will continue to promote TPM activities in the field of digitalization, focusing on zero-loss and zero-defect management, combining digital functions, and developing and applying digital technology to improve process control capabilities.

### **5** Results of TPM Activities in the Plant

Productivity: 57,000 tonnes of production increase, 3.64% improvement rate, 37% increase in production value;

Quality: 0 quality incidents in 5 years; customer complaint rate decreased by 18 per cent

Safety: no safety accidents in 5 years, no loss of labour in 5 years. Cost: production cost savings per tonne increased by 112%; Environment: no environment-related complaints in 5 years;