

Ningxia Yili Dairy Co., Ltd.

Company Profile



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Chapter 1 Company and Plant Profile

1. 1 Company and Plant Profile

1. 1. 1 Company profile

Yili Group is the largest dairy company that has the most complete product line in China. In 2023, Yili Group recorded a sales revenue of 126.2 billion Yuan, which was No.1 in Asian and No.5 in global dairy industry. The plant that is applying for TPM award is our Ningxia plant (Fig.1.1).

1956: Foundation of Hohhot Hui District Cattle Breeding Cooperative Group	2008: Partner of Beijing Olympic Games
1993: Shareholding system reform and change of company name to Yili	2010: Partner of Shanghai Expo
1996: Stock market listed	2019: No.1 in brand value in China's food and dairy products
2003: Ranked first among China's top 500 most valuable food companies	2022: Top 5 in global dairy industry



Fig. 1.1 Company profile

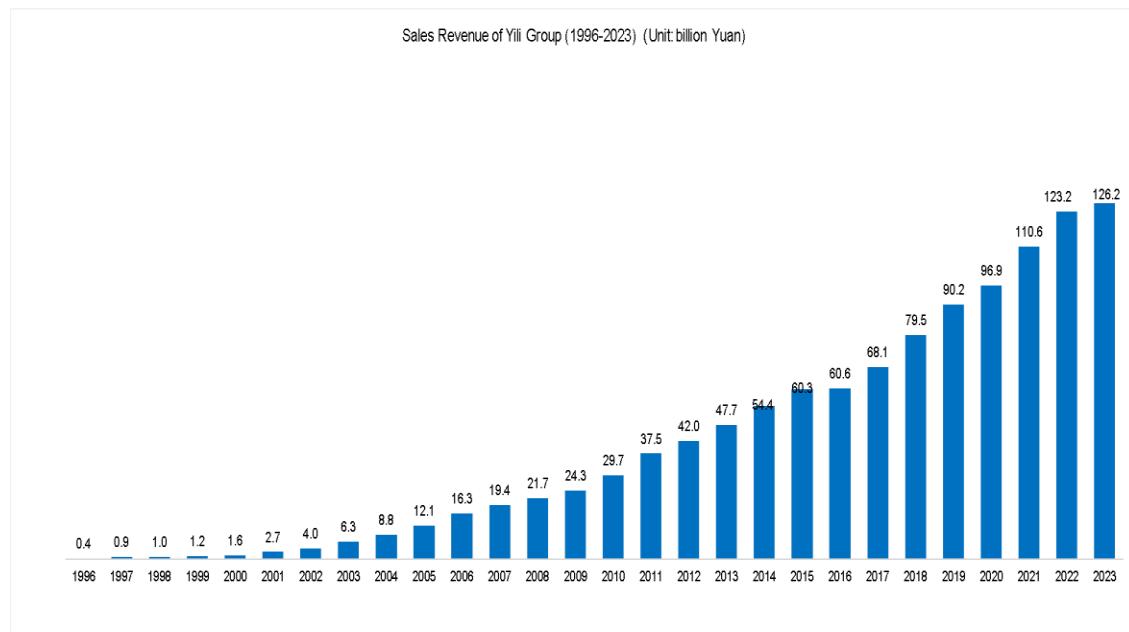


Fig. 1.2 Operating Revenue of Yili Group

1.2 Processes、Equipment & Products、Organization Structure、Employees

1.2.1 Profile

With sufficient raw milk supply from local dairy farms , convenient transportation, and a registered capital of 4.414 billion Yuan, Ningxia Plant is the largest UHT milk factory in the world. It has three workshops, equipped with 53 filling lines, and its daily capacity is 4,700 tons. (Fig.1.3)

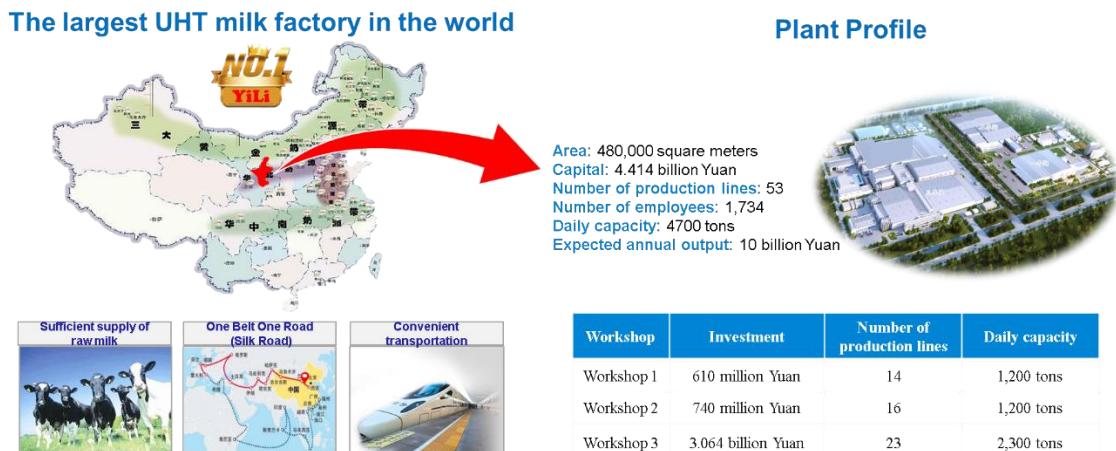


Fig.1.3 Plant Capacity

Workshop 1 was built in 2010 and started mass production in 2011. In 2015, Workshop 1 started TPM activity. In the same year, Workshop 2 started mass production and started TPM activity. In 2018, Workshop 1 won the TPM Excellence Award . In May 2020, Workshop 3 started mass production and started TPM activity. In 2023, Ningxia Plant won the Special Award for TPM Achievement. (See Fig. 1.4)



Fig.1.4 Plant Milestones

1.2.2 Production Process

Ningxia Plant produces 3 series of products: sterilized milk, yogurt, and whipped cream. 1) The production process flow of pure milk: Milking in dairy farm → Receipt of raw milk → Pasteurization → Mixing → UHT sterilization → Aseptic filling → Packaging → Storage → Shipping → Delivery. 2) The production process flow of Ambrosial yogurt: Milking in dairy farm → Receipt of raw milk → Pasteurization → Mixing → Base pasteurization → Fermentation → Production pasteurization → Aseptic filling → Packaging → Storage → Shipping → Delivery. 3) The production process flow of whipped cream: Milking in dairy farm → Receipt of raw milk → Pasteurization → Mixing → Pre-filling → UHT sterilization → Aseptic filling → Packaging → Storage → Shipping → Delivery.(See Fig. 1.5)

Process		Dairy Farm	Receipt of raw milk	Pasteurization	Mixing	UHT sterilization	Filling	Packaging	Storage	Shipping	Delivery
Pure milk series	Picture										
	Key conditions	≤4°C	≤6°C	75±5°C/15s (Once processing 139°C)	1-8°C	137-141°C/45	Good sealing	Complete packaging	Temperature: 10-30°C Humidity: 30%-70%	Loading standard compliance rate 100%	Acceptance rate 99.96%
Ambrosial yogurt series	Picture										
	Key conditions	≤4°C	≤6°C	75±5°C/15s	50-55°C	121°C	40-42°C	75±2°C/15s	Good sealing	Complete packaging	Temperature: 10-30°C Humidity: 30%-70%
Whipped cream series	Picture										
	Key conditions	≤4°C	≤6°C	75±5°C/15s	65-70°C	8-12°C	143±1°C	Good sealing	Complete packaging	Temperature: 2-8°C	Loading standard compliance rate 100%

Fig. 1.5 Process

Equipped with 10 types of filling machines and 53 production lines, the Plant can produce 4,700 tons of medium/high-end products. The number of product items and filling machines is the largest in all plants of the Liquid Milk Division of Yili. (See Fig. 1.6)



Equipment	Picture	Volume/pack	Number of production lines	Capacity (packs/hour)
PET		230 g	3	48000
CFA-124		200 ml	2	24000
CFA-1724		220 ml	2	24000
TPA-3		250 ml	10 types of filling machine (the most in Liquid Milk Division)	24000
DGDA-16F		125 g	2	20000
A3CF-250E		250 ml	2	9000
CF-205		205g	12	9000
TT3-200		200 g	4	9000
TBA-8		1000ml	1	6000
TW8FS		20 kg	1	244

Fig. 1.6 Equipment and Products

1.2.3 Organizational Structure

The General Manager and Steering Committee are responsible for TPM activity in the Plant. The Plant runs a 3-shift, 2-operation shifting system. (Fig.1.7)

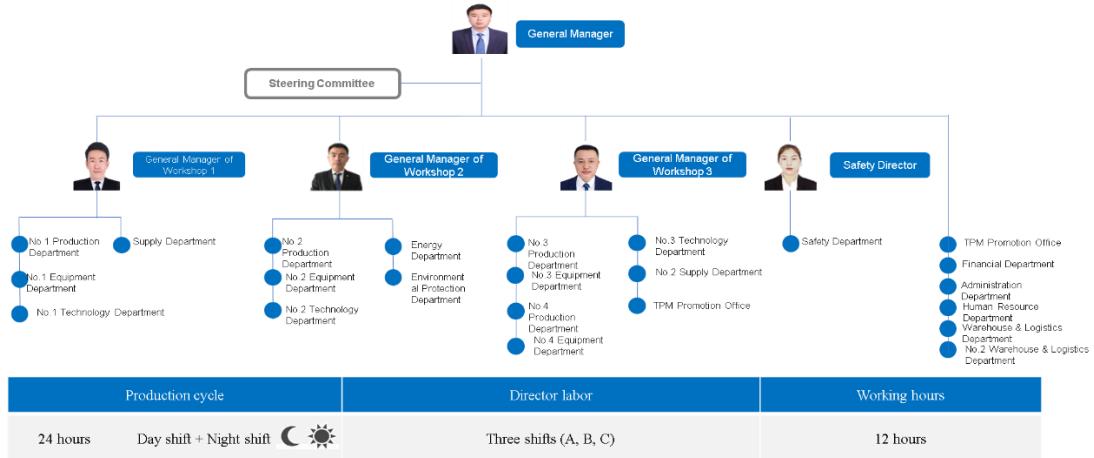


Fig.1.7: Organization Structure

1.2.4 Employees

The Plant hired 1,734 employees, within which 79% are line workers, 53.86% have worked in the plant for more than 5 years, 71.33% are college graduates or above, and 49.55% are less than 30 years old. (Fig.1.8)

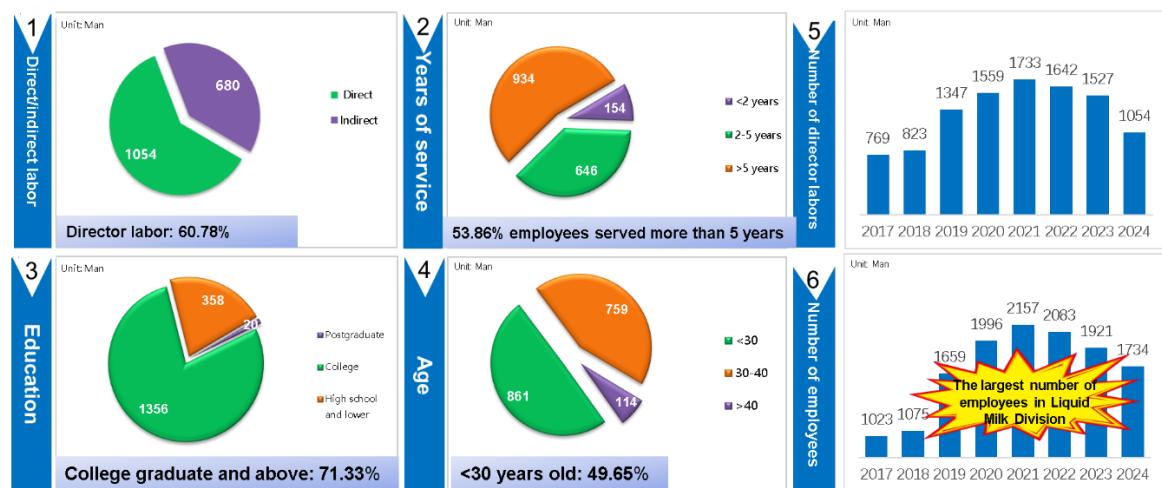


Fig.1.8: Employees

2. Chapter 2 Roadmap for Manufacturing Excellence

2.1 Why we introduced TPM?

Our vision is to create a world-class healthy food factory. We believe TPM activity can help us sharpen our competitive edge and improve skills and performance. In 2014, we introduced TPM philosophy and improvement tools, and started improvement team activities for laying foundation for TPM introduction. In 2015, we officially kicked off TPM activity and set up PM, AM, FI, QM, TD, SH, ENV, EM, and OM pillars. In 2018, we successfully won TPM Excellence Award (Category A). In 2019, we set up the SC (Supply Chain) pillar and expanded improvement activities to raw milk supply and product delivery areas. In 2021, we won the Award for Excellence in Consistent TPM Commitment. In 2022, we set up the Cost Management (CM) pillar. We won the Special Award for TPM Achievement in 2023, and plan to challenge the Advanced Special Award for TPM Achievement in 2025 as well as other TPM awards in the future. (Fig.2.1)

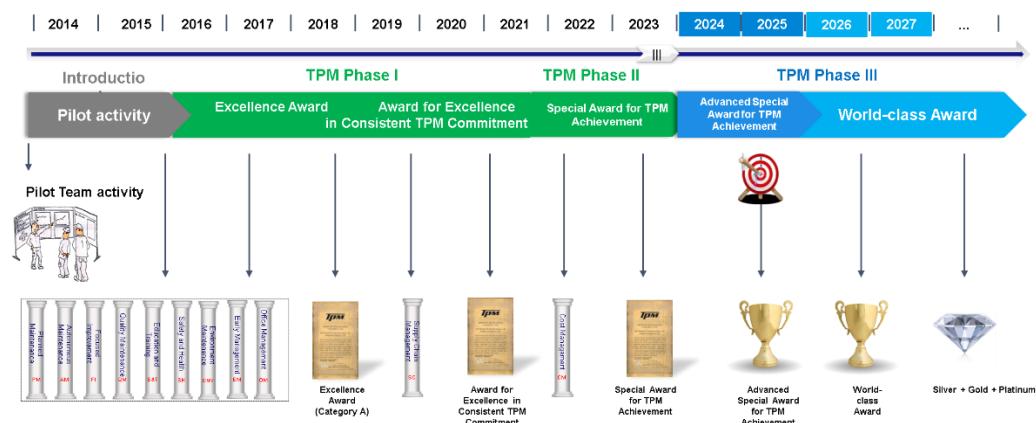
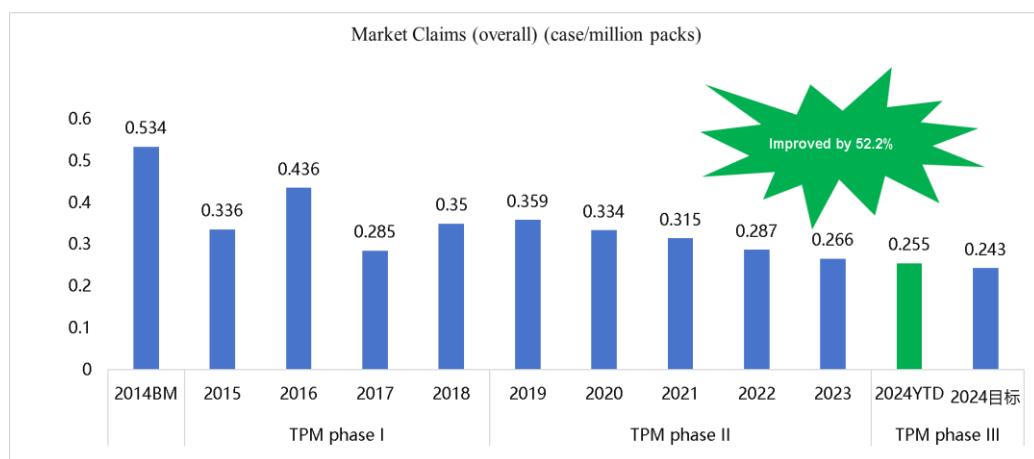


Fig.2.1 Background of TPM Introduction

Chapter 3 Achievements

3.1 Tangible benefits

Through TPM activities, our performance is improved significantly. Compared to the TPM Excellence Award stage, market claims reduced by 52.2%, process defect rate reduced by 75.5%, OEE increased by 25%, and unit cost reduced by 1.6% (Fig.3.1)



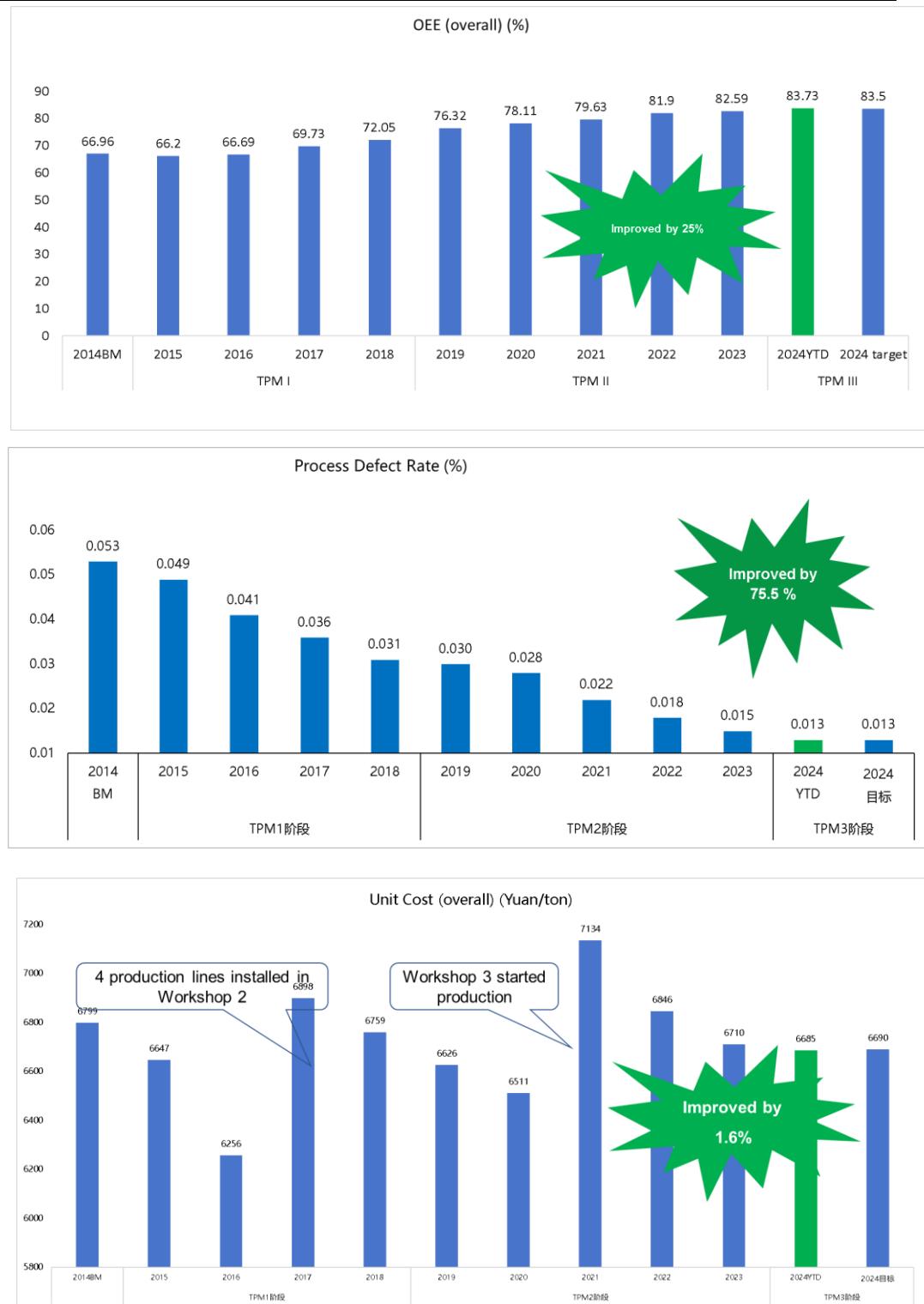


Fig.3.1 Tangible benefits

3.2 Intangible Benefits

Up to now, our employees have submitted 146,952 suggestions, and 90.5% employees, including all managers, have been involved in TPM activities. (Fig.3.2)

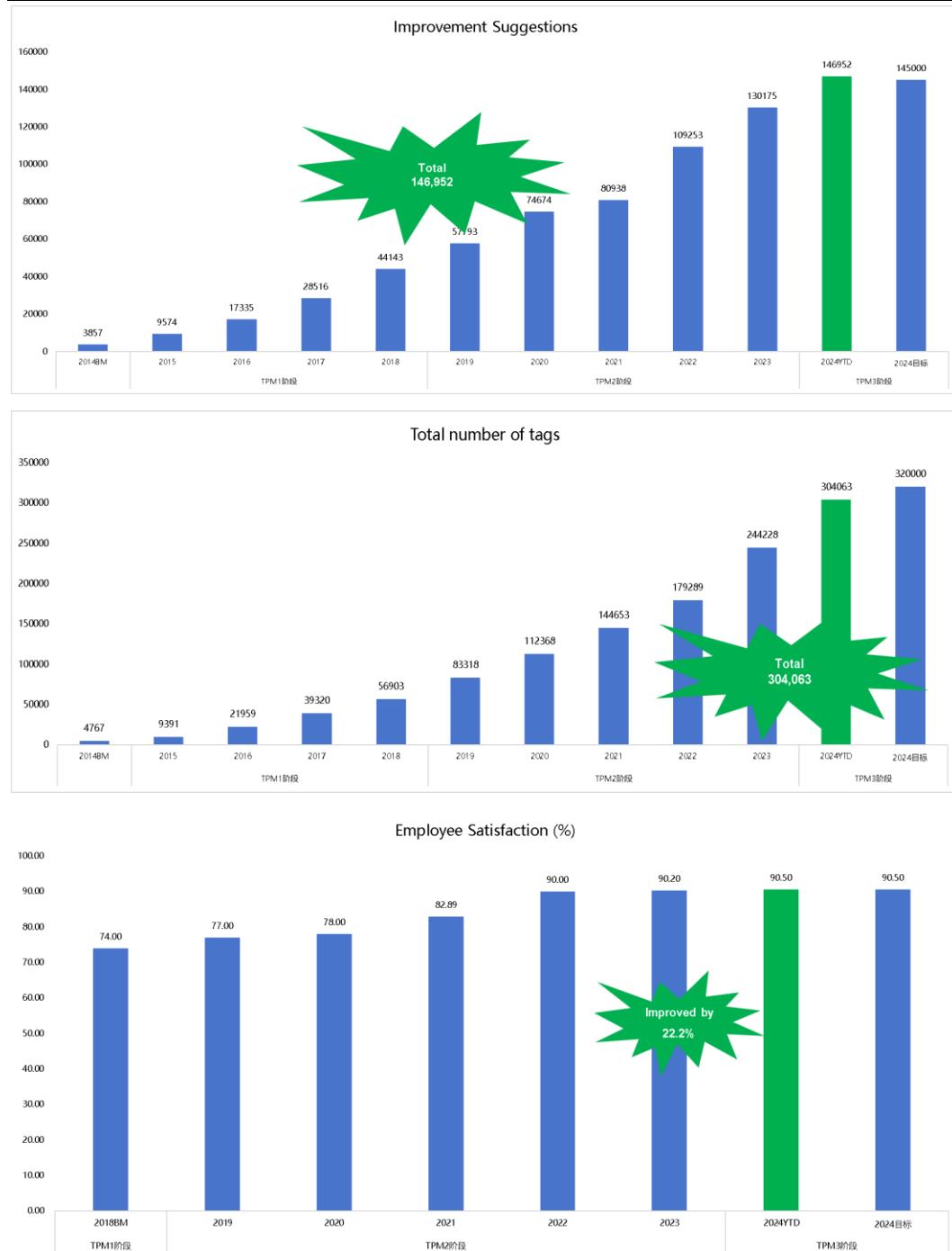


Fig.3.2 Intangible benefits

Chapter 4 Key Factors to Success

- Clear plant strategy and guide TPM activities.
- The plant management takes TPM as the only management model.
- Through the establishment and improvement of data collection system, all kinds of

losses in the plant can be identified comprehensively.

- Based on the “zero” loss target, the high-level tools are applied to carry out the “zero” activities continuously.
- The effort to enhance the awareness of autonomous improvement and promote TPM activities.
- Continuously commitment to strengthen the ability of employees to identify and solve problems.

Chapter 5 Achievements

TPM Award Assessment Achievement Sheet

Company & plant name	Ningxia Yili Dairy Co. Ltd.
TPM Slogan/Objectives	TPM Contribute to the continuous improvement of organizational performance

Category	Index	Unit	BM (TPM Started or last time awarded)	Actual Status	Target
					2024
Enter the year →					
S	Number of work-related accidents requiring days off work	Cases/ year	3	0	0



S	Number of work-related accidents not requiring days off work	Cases/ year	2	0	0
P	Productivity for main products	Parts/Operator hours	/	/	/
P	OEE (or Overall Plant Efficiency)	%	66.2	83.73	83.54
P	Availability	%	67.47	83.98	83.95
P	Performance Rate	%	99.1	99.8	99.7
P	Quality Products Rate	%	99	99.9	99.8
P	Number of breakdowns	Breakdowns/year	7153	2847	2920
P	MTBF	Hour	6.29	20.35	18.5
P	MTTR	Hour	5.6	21.4	23.5
Q	Number of customer complaints	Number/year	672	244	260
Q	In-line defect rate (scrap)	%	0.049	0.019	0.021
Q	In-line defect rate (rework)	%			
C	Cost index	Cost/Unit Cost/Kilogram	100	93.7	94
D	Production Lead time	Days	6.2	3.2	3.8



D	Delivery performance	%	100	100	100
S	Frequency rate	Number of occupational accidents with leave for 1 000 000 worked hours	0	0	0
M	Number of Employee Suggestions	Number/year	3857	16777	14825

Note: Have the indices covered all important items related to PQCDSM measures being undertaken in the entirety of the subject to be assessed. Note all indices in the TPM Activity Report. Where your specific indices vary from those above attach relevant data.