

Company profile

1. Company, Plant/Factory Profile

1.1 Group profile

SIG is a leading solutions provider of packaging for better – better for our customers, for consumers, and for the world. With our unique portfolio of aseptic carton, bag-in-box, and spouted pouch, we work in partnership with our customers to bring food and beverage products to consumers around the world in a safe, sustainable, and affordable way.

Our technology and outstanding innovation capabilities enable us to provide our customers with versatile packaging systems and solutions for innovative products and smart operations, all to address the ever-changing needs of consumers. Sustainability is integral to our business and guides us on our journey to create packaging for better – packaging that gives more to people and the planet than it takes out.

Founded in 1853, SIG is headquartered in Neuhausen, Switzerland, and is listed on the SIX Swiss Exchange. The skills and experience of our approximately 9,000 employees worldwide enable us to respond quickly and effectively to the needs of our customers in over 100 countries. In 2023, SIG produced +50 billion packs and generated €3.2 billion in pro forma revenue (incl. unaudited revenue from recent acquisitions). SIG has an AA ESG rating by MSCI, a 13.4 (low risk) score by Sustainalytics, a Platinum CSR rating by EcoVadis, and is included in the FTSE4Good Index.

Our versatile packaging solutions

The diagram illustrates three packaging solutions offered by SIG, each with its own set of applications and retail channels. A double-headed arrow at the top indicates the versatility of these solutions. Below the solutions, a horizontal bar at the bottom categorizes them into 'Retail channel' and 'Institutional channel'.

Solution	Applications	Capacity	Consumption	Retail Channel
Spouted Pouches	Dairy and yogurt drinks, fruit purees, baby food, sauces	50ml-500ml+ packs	Small-size & on-the-go consumption	Retail channel
Cartons	Fruit juices, non-carbonated soft drinks, dairy and plant-based alternatives, liquid food	80ml-2L packs	Single-serve and at-home consumption	Retail channel
Bag-in-Box	Dairy, water, beverage concentrates, wine, liquid food, tomato products	2L-1,300L packs	At-home consumption, Foodservice, quick-service restaurant, Industrial processing	Institutional channel

1.2 Plant profile






1.2.1 Factory Information

In 2019, to meet growing market demand, SIG announced an investment in a new plant in Suzhou, which is Plant Suzhou 2 (PSZ). Plant Suzhou 2 (PSZ) is SIG's third new plant in the Asia-Pacific region and the second to be invested in China. Plant Suzhou 2 (PSZ) is located in close proximity to the Plant Suzhou (PSU), which allows for the sharing of resources in production and operations.

Plant Suzhou 2 (PSZ) is located at No.18 Wang jiang Road, Suzhou Industrial Park. PSZ was officially put into operation in 2020. The plant is managed with world-class environmental, safety and operational concepts to provide world-class packaging, services and state-of-art solutions to customers in the global food and beverage industry.

1.2.1 Products

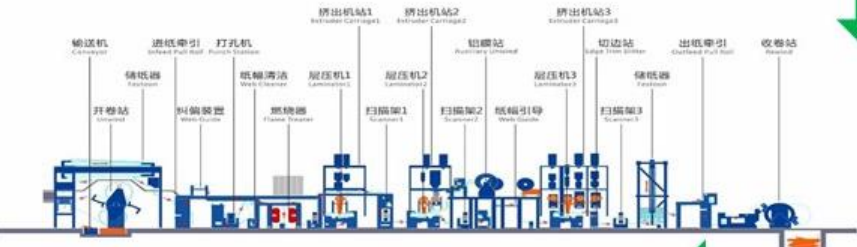
PSZ provide aseptic carton packaging/sleeves. Package portfolio is as picture below:

Format	Specification (Volume: ml)	Example	Category	Strategy
CB7	250		Routine	Conversion Cost ↓
CI17	180/200/220/250			
CM20	180/200/220/250/290/330/350		High value added	Market share ↑ Quality ↑
CI18	200/250/300/330/350			
CB12	125			

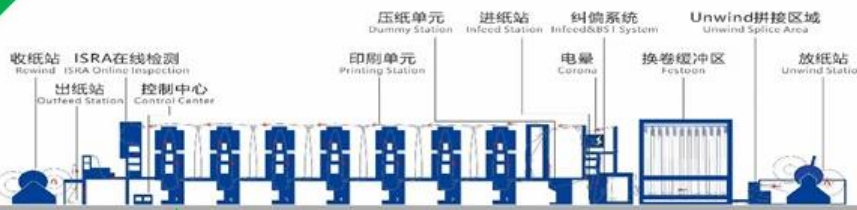
1.2.2 Process technology

The production of SIG aseptic carton packaging has four main processes: Extrusion, Printing, Crease Cutter and Combi Sealer. Sleeve production processes are illustrated as below:

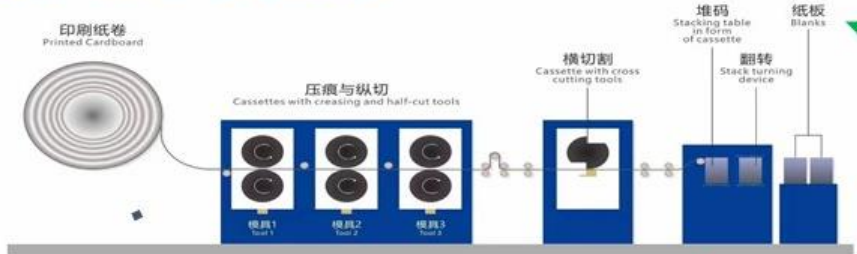
Extrusion Coating Line 挤出复合流程



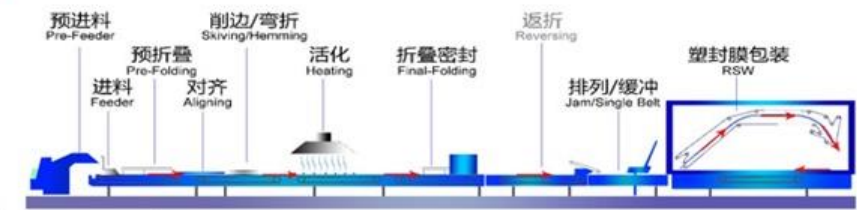
Printing Process 印刷流程



Creasing/Cutting Process 模压切割流程



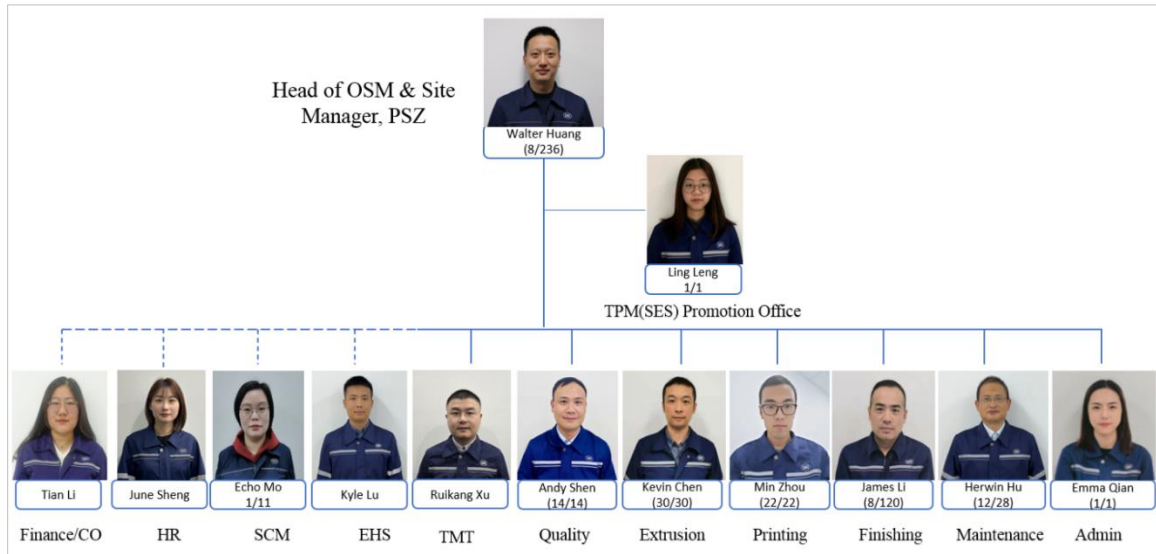
Combi Sealer Process 成型密封流程



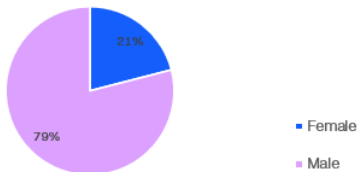
1.2.3 Management organization and staff structure

There are around 227 employees in Plant Suzhou 2 (PSZ). Plant Suzhou 2 (PSZ) and Plant Suzhou (PSU) share support departments such as HR, Finance, SCM, Procurement and IT. Most employees of the support function are based at Plant Suzhou (PSU).

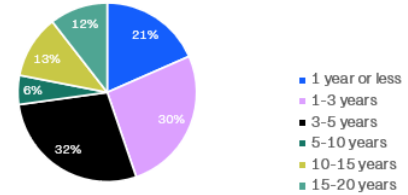
Around 40% of PSZ employees were from PSU. Employee structure at PSZ can be found from picture below.



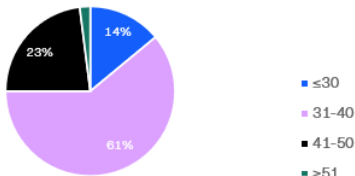
Personal Info-By Gender



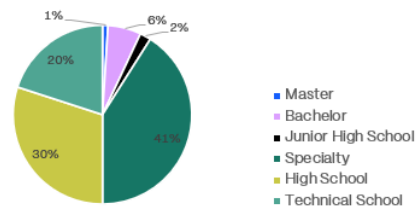
Personal Info-By Service year



Personal Info-By Age



Personal Info-By Education



2. **Milestone on the Journey of Manufacturing Excellence**

2.1 **Why TPM**

As process industrial production, we focus on loss reduction and waste elimination.

The vision of SIG Plant Suzhou 2 (PSZ) is to build a world class lean and smart plant.

SES is the abbreviation of SIG Excellence System, which is the TPM methodology at SIG.

Our sister plant, Plant Suzhou (PSU) started TPM/SES implementation since 2019. We could see improvements in equipment, optimization of processes and an increase in personnel morale at PSU after the TPM implementation.

Despite the fact that our equipment was brand new when we built the plant, we are well aware that the aging and deterioration of our equipment will become more and more serious if we do not use the machines correctly and maintain and service them in a timely manner.

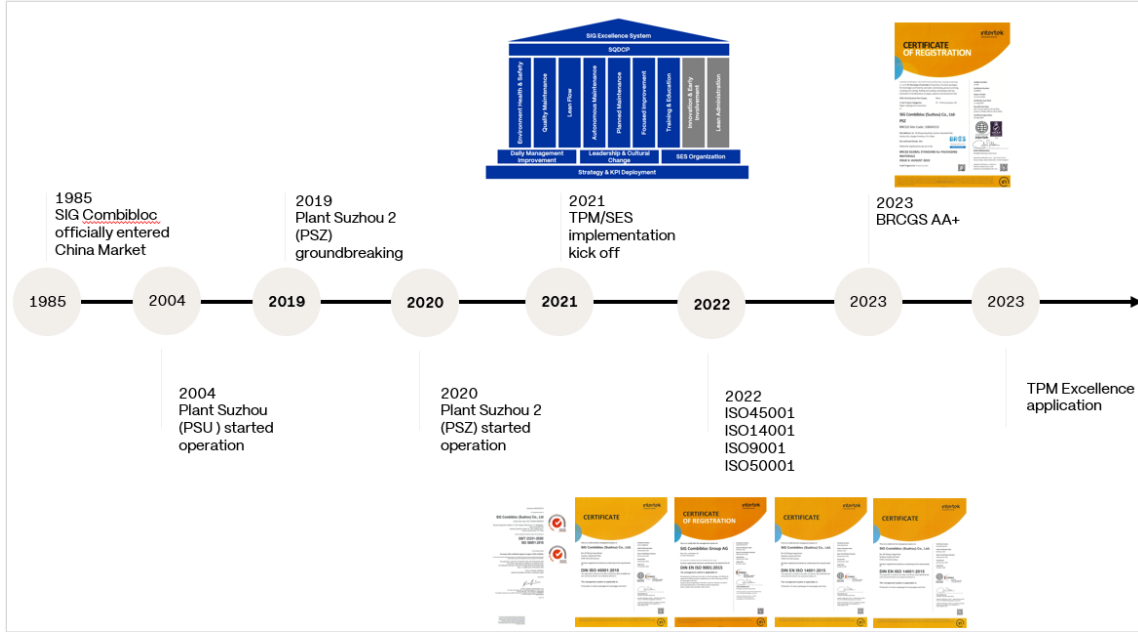
In addition, our product family is gradually increasing, which makes it necessary for us to increase the flexibility of our production.

Increasing governmental requirements for environment and safety and our customers' demand for higher quality are challenges for us.

With this vision and challenge, PSZ kick offed TPM/SES implementation in 2021 for performance maintain and continuous improvement.

2.2 **Milestone for Plant Suzhou 2 (PSZ)**

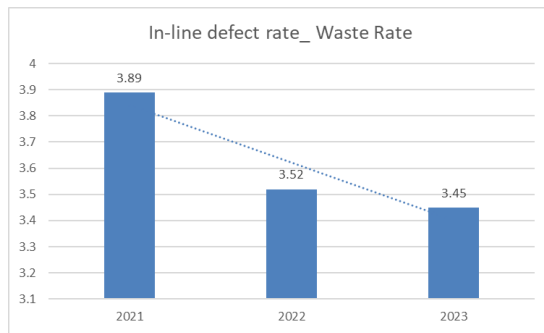
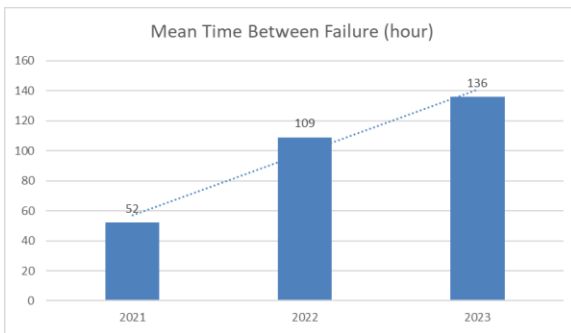
The whole SIG is taking TPM(SES) as our way of working. EFESO is invited to design and coach our TPM(SES). PSZ is taking it as our policy. Milestone for PSZ can be found from picture below.



3. Benefits Achieved

3.1 Tangible business result

Since the launch of TPM(SES) management system in 2021, our performance continued to improve. Compared with 2021, KPIs have been greatly improved, MTBF dramatically improved till the end of 2023. In the meantime, the in-line defect rate decreased by 0.44% till 2023.

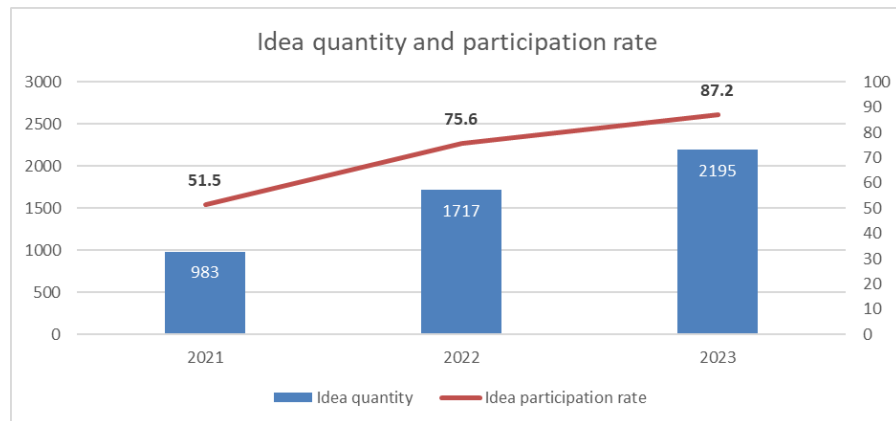


3.2 Intangible business result

Through the implementation of TPM/SES, employees become more and more motivated and engaged. The involvement of employee into the idea management increased and improvement suggestions proliferate.

The skills of the employees have been improved in a big way and more and more experts have been trained.

In the meantime, a pleasant and safe working environment has been created.



4. Key of our Manufacturing Excellence

Since starting our TPM journey, we have learned a lot about methodologies and project management tools. The equipment has become more stable and the improvement mindset and skills of the personnel have been enhanced. Some key items:

1. TPM/SES steering committee for better pillars and department communication and corporation, as well as management involvement
2. All employee, especially the shopfloor employee involvement in TPM/SES activities
3. Zero loss and waste mindset
4. Visual management and Standardization
5. Continuous improvement in daily work

5. Achievement Record

Achievement sheet can be found from pictures below. We had improvement on machine performance and our quality, as well as the people development.

			▼ Please fill in the range of data you are collecting ▼		
Category	Index	Unit	BM (TPM Started or last time awarded)	Actual Status	Target
Enter the year →			2021	2023	2024
S	Number of work-related accidents requiring days off work	Cases/ year	1	0	0
S	Number of work-related accidents not requiring days off work	Cases/ year	4	5	3
P	Productivity for main products	Parts/Operator hours	1.5	1.9	2.2
P	OEE (or Overall Plant Efficiency)	%	47	55	57
P	Availability	%	73.5	73.5	74.5
P	Performance Rate	%	66.0	77.5	79
P	Quality Products Rate	%	96.11	96.55	96.6
P	Number of breakdowns	Breakdowns/ year	269	319	287
P	MTBF	Hour	52	136	145
P	MTTR	Hour	0.54	0.5	0.45
Q	Number of customer complaints	Number/year	13	27	52.8
Q	In-line defect rate (scrap)	%	3.89	3.45	3.40
Q	In-line defect rate (rework)	%	7.74	2.63	2
C	Cost index	Cost/Unit Cost/Kilogram	26.4	23.5	21.5
D	Production Lead time	Days	5.6	5.1	4.9
D	Delivery performance	%	97.64	98.3	99
S	Frequency rate	Number of occupational accidents with leave for 1 000 000 worked hours	2.75	0	0
M	Number of Employee Suggestions	Number/year	983	2195	2300