

Company: **Klabin**
Factory: **Itajaí Plant**
Product: **Corrugated Boxes**
TPM kick off date: **May 2018**

1. Organization Profile

Klabin is a producer of timber, pulp, packaging papers, cartonboard, corrugated boxes and sacks acting in domestic and international markets based in its sustainability principles for all activities related to its products and services. Founded 124 years ago, it has 22 units in Brazil and one in Argentina. It is the biggest paper producer, exporter and recycler of Brazil and worldwide leader in its acting segments. The company has a sales volume of 3.189 million tons showing gross revenue of R\$ 4.3 billion (US\$ 1.03 billion). Brazil is the 7th largest producer of corrugated boxes in the world and Klabin has the largest position, with 23.5% of the Brazilian market and of these, the Itajaí plant represents 10% of the company's corrugated boxes production volume. The main segments we supply packaging are: food and tobacco.



Example of packaging for the industrial market.

The Itajaí plant has 413 workers and production operates 24 hours a day. The plant's production capacity is 125,000 tons/year and gross revenue is R\$500 million. We have in our layout:

- A) A corrugator with a production capacity of 300 tons/day;
- B) 05 printers with a production capacity of 400 tons/day;
- C) A shipment with a capacity of 480 tons/day.



Itajaí Plant

2. Milestones on the Journey of Manufacturing Excellence

“Klabin Superar” program began with Solving Éfeso consulting in the company in 2004 in our paper division, including two plants that won the JIPM excellence award, gradually expanding to other company businesses, such as our corrugated boxes division.

The corrugated boxes market in Brazil is quite fragmented and has many competing companies. For this reason, we also adopted the “Klabin Superar” Program, as we need to be efficient in our industrial processes and consequently reduce losses and continue to be the leader of the domestic market. Nowadays we have a support of PCM consulting

and JMA Consulting that helped us with preparation to the “Award for TPM Excellence – Category A”.

“Klabin Superar” Program next step is going on in the expansion phase in 2022 aiming intensify our continuous improvement activities and we are ready to participate of the “Award for Excellence Category A ” in the year of 2023, with clear planning up to the world class award, as shown below.



3. Benefits Achieved

Below are the indicators in the PQCDMSME dimensions deployed to measure the tangible effects of Superar on the Itajaí plant. The indicators were deployed for local committees and TPM pillars for the operationalization and achievement of targets, as well as meeting the company's guidelines.

Superar		Benefits Achieved - Itajaí				Klabin
PQCDMSME	KPI	UNIT	BETTER	PRESENTS STATUS FORM 2018 TO 2023	COMPARISON WITH TARGET 2023	
P	PLANT OEE	%	↑	54,3% INCREASED	BETTER	
Q	CUSTOMER COMPLAINTS	QTY.	↓	-57,5% REDUCED	BETTER	
C	TOTAL WASTE	%	↓	-6,0% REDUCED	BETTER	
	EBITDA	R\$ MM	↑	20% INCREASED	BETTER	
D	OTIF - ON TIME IN FULL	%	↑	4,8% INCREASED	BETTER	
S	TFACA - FREQUENCY RATE OF ACCIDENT WITH TIME OFF	HOURS/EMPLOYEE	↓	10% REDUCED	BETTER	
M	HHT - MAN HOURS TRAINING (GENERAL)	QTY.	↑	30% INCREASED	BETTER	
	SUGGESTED IMPROVEMENTS (ACCUMULATED)	QTY.	↑	147% INCREASED	BETTER	
E	RATE OF SOLID WASTE REUSE	%	↓	2,5% INCREASED	BETTER	

Over the past years with “Superar”, we have obtained some intangible results:

- People development;
- Perceived product quality;
- Clean and tidy site;
- Increased employee motivation;
- Better environment conditions;
- Culture of continuous improvement.

4. Key of our Manufacturing Excellence

Klabin establish as the first item of its sustainability policy the search for competitiveness quality aiming the sustainable improvement of the results, continuously improving the processes, products and services to meet our client expectation, employees, shareholders, community and suppliers. Based on this premise, Klabin has done the major volume of investments of its history.

People are priority to us. We invest in a management system that allows us to do the follow up and the careers development of our managers, the basis of the succession plan. The objective is the continuous improvement in the qualification and opportunities for our employees.



Employees gathered after the 2st Assessment Excellence Award

Our strategy for long term is remaining the competitiveness and the leadership based on the quality of our products, qualification of our employees and in the relationship with our clients and suppliers through continuous innovation and adequate costs. To grow creating value in all we do, that is our compromise.

Future Plan

- Implement more projects to improve OTIF and OR;
- Concentrate efforts to reduce Chokotei loss through AM teams;
- Challenge Consistency Award in 2026;