LINDT & SPRÜNGLI AACHEN PLANT COMPANY PROFILE

1 Organization Profile

In 1845 in Zürich - Switzerland, a confectioner named David Sprüngli and his apprentice son Rudolf, decided to produce chocolate. Under the influence of a new Italian trend, they started to make solid, rather than liquid, chocolate. In the wealthy Zürich society, this became very popular and consequently production was transferred to a new factory in Horgen, on the Zürich Lake. In 1862, Rudolf took the helm of the company and boosted the business, opening a new confectioner shop and moving the factory back to Zurich.



With six production sites in Europe, six in the USA and distribution and sales companies on four continents, Lindt & Sprüngli is recognized as a market leader in the premium quality chocolate business, offering a large selection of products in more than 120 countries around the world. After more than 165 years, Lindt & Sprüngli has become known as one of the most innovative and creative premium chocolate companies.

In 1965, L&S built its own distribution system in Germany, employing 130 sales representatives within a decade. In 1986, the Monheim company was dissolved, and the Chocoladefabriken Lindt & Sprüngli GmbH (Lindt Germany, L&S Germany) was founded in Aachen. L&S Germany purchased a plant in Süsterfeldstraße, Aachen in 1988, and added a logistics section in 2012.



Today, Lindt Germany chocolate produced in Aachen is distributed worldwide and is known for its highquality, with "Made in Aachen" being a seal of excellence across the globe. Aachen, with its cutting-edge research infrastructure at North Rhine-Westphalia Technical University of Aachen, is considered one of the most forward-thinking locations in Germany.

The Aachen production plant is L&S company's largest and represents its constant growth, as demonstrated by its rising revenue and steady site development.

Our products can be classified in four main families:

Seasonal Hollow Figures: Unique within the group in its production of hollow figures, including the famous Lindt Gold Bunny.	30 %	
Molded Products – Tablets & Sticks: Tablets are manufactured as solid and filled products of different sizes.	30 %	Sund to the second seco
Molded and Enrobed Pralines : The most complex products are filled with different fillings and decorated.	20 %	Co Received
Seasonal Filled Products: Solid and filled products are manufactured and packaged in many different shapes and forms.	20 %	

Plant Organization

Lindt & Sprüngli Germany is led by CEO Michal Spiller, who provides the company with leadership and guidance. The operations department, responsible for maintaining the high quality standards of our products and ensuring timely delivery both domestically and internationally, is overseen by Thomas Scheidgen. Each operations department has a team of experienced employees who work diligently to ensure that our processes are efficient and effective. At Lindt, we take great pride in our commitment to excellence, delivering exceptional products that are renowned worldwide.



2. Milestone on the Journey of Manufacturing Excellence

In October 2012, Lindt Group decided to launch a global TPM approach in the manufacturing facilities called Lindt Performance Way (LPW). Focus was initially set on the foundations: 5S and Performance Control Systems (PCS).

Lindt Germany was motivated by several factors:

- <u>Volume Growth</u>. This rapid and drastic increase in volume, and projected future growth creates opportunities to improve the existing processes.
- <u>Expansion of the product mix</u>. We a lot of new products each year. This amount of new products has to be managed on existing lines, therefore we need to find the most efficient way to produce.
- <u>Difficult to compare between Lindt plants</u>. With many international companies within the Lindt organization, it was difficult to compare progress and processes as there were different KPIs measured. Introducing the TPM approach, allowed for the standardization of KPIs and easier comparison from plant to plant. It is also a great opportunity to share best practice and learn from each other.
- <u>The pressure on cost is increasing continuously.</u> By implementing TPM, losses were deployed and attacked. Savings were achieved and cost reduced.
- <u>Increased business complexity</u>. Customers expected more customization, higher quality as well as improved time to market, and higher service levels. To achieve this, TPM methodology became necessary to attack losses in delivery and performance and improve our product quality.

Collaboration in the plant between the different departments such as R&D and F&C was significantly improved. Many colleagues are applying the concepts of continuous improvement and zero loss. In the last two years, we have made very good progress in our deployments. We can show the OEE including all loss categories per plant and machine on product level, using Power BI.

LPW has already developed several approaches so that we can take the employees along with us and motivate them to take part in the improvement teams of quick kaizen, standard kaizen or major kaizen teams. And we trained them to write TAG cards, if something is not in the basic condition.

3. Benefits Achieved

PANY AND PLANT NAME

The TPM methodology helped to increase the knowledge and the awareness of the employees. Below there is the chart with the Factory KPIs in terms of PQCDSME.

	activity started	2016				
Year of benchmarking						
Category	INDEX	Unit	TPM Kick Off 2016	Actual Status 2023		
S	Number of work-related accidents requiring days off work	#	2	20		
S	Number of work-related accidents not requiring days off work	#	75	47		
P	Productivity Plant*	kg/Ph	100	120		
р	OEE Plant	%	68,1	67,98		
Р	Number of Breakdowns	#	5032	2782		
P	MTTR	h	1,38 (2020)	1,91		
Р	MTBF (Breakdowns)	h	55,08 (2020)	110,15		
Q	Waste of Production*	%	100	73		
Q	Rework*	%	100	72		
Q	Critical Complaints*	#	100	35		
Q	Non right first time/ Levels IV, V and VI	96	n/a	1,45		
С	Direct Labor Cost Index *	€/tons moulded	100	131		
С	Indirect Costs Index *	€/tons moulded	100	136		
D	OTIF internal Logistic	%	n/a	95		
D	OTIF Intercompany	96	n/a	96		
D	OTIF external Logistic	%	n/a	99		
м	Sick Leave	%	5,82	9,19		
м	Quick Kaizen	#	36	115		
E	Water Consumption*	m ³ /tons produced	100	7		
E	Energy Consumption*	kWh/tons produced	100	89		

TPM Award Assessment Achievement Sheet

Lindt & Sprüngli Germany GmbH – Aachen, GER LPW – Work with and learn from each other

* For reasons of confidentiality, we have standardized these figures with the reference 100 at the start of the TPM program in order to still be able to show progress.

Intangible improvements are demonstrated through the overall cultural change since the implementation of the LPW program. We have achieved a significant increase in employee satisfaction through the introduction of AM. The workshops, training and instructions are seen very positively by the employees and are well used. The T&E pillar has produced excellent results, and employees are proud of their new skills and their machines. Supervisors have understood that any elimination of losses and especially the reduction of short stops is a relief for employees on the shopfloor.

4. Key of our Manufacturing Excellence

Technological progress and globalization mean that Lindt will also have to face increasing competition on international markets in the future. We must look for suitable patterns of action in order to maintain and continuously develop our successful situation. For this purpose, we want to deal more and more with the optimization of the loss-cost matrix in the future and focus even more on the Conversion Cost.

In this context LPW will continue to keep focus on manufacturing, implementing 11 TPM pillars and launching soon the Cost pillar.



For this reason, we intend to continue focusing on our maintenance costs, logistics costs, setup processes and the technical efficiency. In this context, we have recognized that in addition to more efficient production, we also need to look at reducing waste along the entire value chain. To be able to cover this consideration in its entirety, we have decided to analyse the entire value stream in the future with the help of the Lean Flow pillar.

With the steady increase in our product diversity, we will have to achieve even greater flexibility, this is why we want to implement the Early Product Management Pillar.

The crisis situation, which was caused by the Corona pandemic, highlights the need to consider all peopledependent processes.

The rise in sickness rates during the crisis and the increasing shortage of skilled workers in Germany shows up that competence development and visualization of the workplace are becoming increasingly important. The pillars must develop good Poka Yoke solutions within the framework of their kaizens and constantly optimize process stability.

In addition to costs, climate neutrality is becoming more and more relevant for large corporations. We are also dealing very intensively with this vision and developing a clear plan of action.

To this end, we are developing clearly structured deployments to specifically reduce the largest energy and water losses; this effort is being carried out as part of the Environment Pillar.