

RESEARCH AND DEVELOPMENT

Behind the scenes of product development
at Lindt & Sprüngli

Behind the successful products of the Lindt & Sprüngli Group are experts who are continually expanding the product range to delight consumers with new chocolate delicacies. The leading products Lindor, Excellence as well as seasonal products such as the famous Gold Bunny are nowadays among the most popular classics worldwide.



ORIGINAL SWISS

The secret original chocolate recipes and Swiss expertise still make up the fine and important difference

The secret original recipes behind the fine Swiss chocolate are the key to the company's global success and form the basis for all product development efforts of the Lindt & Sprüngli Group around the world. From the very beginning, Lindt & Sprüngli has been synonymous

The exquisite cocoa mixtures, the basic recipes for the unique milk, dark and white chocolates and the delicate Lindor recipe were developed by the parent company in Kilchberg. To this day, it still preserves and is responsible for this strictly guarded chocolate secret.

As well as these basic recipes, production and process expertise is also of utmost importance. These start with patented procedures for preparing cocoa beans, the unique roasting and grinding processes, and the ways in which the chocolate is conched and shaped. The

parent company defines these basic recipes and processes for Lindt & Sprüngli around the world and continues to develop them to produce

products of the same standardized and high quality with the distinctive Lindt taste sensation. On the basis of these one-of-a-kind basic recipes and expertise available, local subsidiaries work closely with their marketing experts to adapt the chocolate products to the particular needs of the market and country-specific taste preferences. By sharing the responsibility in this way, the parent company ensures a consistent and high quality as well the flawless processing of all Lindt products across the world, regardless of where they are produced. With this centralized quality guarantee as the seal of quality of the Lindt brand, the parent company is responsible for making sure that every Lindt product is produced in line with the same strict Lindt standards.

"As the parent company, we take responsibility for ensuring that every product complies with the Swiss quality guarantee and the strict Lindt standards."

Guido Steiner, Group Management Member

with an extremely exquisite and intense taste sensation. This is the very reason consumers around the world love and appreciate Lindt & Sprüngli's top-quality chocolate products.

R & D FACTS

More than
9,000

brands in over 170 countries
are registered by the
Lindt & Sprüngli Group.



500
DEVELOP-
MENT
PROJECTS



Several hundred
projects are in the
long-term pipeline
around the world.

66%

women in senior management positions
in R & D

MAIN FUNCTIONS

1. Product development
2. Packaging development
3. Process technology
4. Sensor technology
5. International food law
6. Quality management and safety

Stefan Schmid



STEFAN SCHMID

LINDT & SPRÜNGLI, INTERNATIONAL
Kilchberg, Switzerland

Research and development is of great importance for Lindt & Sprüngli in order to maintain the uncompromising commitment to high Swiss quality standards and the innovation pace of the whole Group in the long run. In addition to the continuous research at the head office to further develop the Lindt basic recipes and processes, eight local teams enrich the Lindt & Sprüngli product world with innovative chocolate ideas and delight consumers of the Lindt brand as well as Ghirardelli, Russell Stover, Caffarel, Hofbauer and Küfferle. As a successful premium brand producer, Lindt & Sprüngli continuously faces new challenging market requirements and changes along the entire value chain – from the cocoa bean right through to the finished product. To this end, the company follows a global R&D strategy that supports its long-term success. An important part of this is knowing your own strengths as well as the needs of the global and local markets and align-

ing your strategy with them. Stefan Schmid assumed this task as Head of Corporate R&D at the end of 2018, after 15 years in various R&D roles in the Lindt & Sprüngli Group. His core activities are to ensure standardised use of the basic chocolate recipes and process expertise provided to the subsidiaries by the parent company and to research into their continuous development. In addition to this task, he coordinates the local product developments with a global impact in close cooperation with the marketing team. This particularly involves further developing the product range of the leading brands Lindor and Excellence. The enhanced international partnership and transfer of knowledge on various developments are of utmost importance in this respect. As well as heading up these internal projects, Stefan Schmid coordinates research projects with the development departments of universities. He uses the knowledge he acquires from these

to initiate improvements and new developments. The partnership with the Lindt Chocolate Competence Foundation presents a particular highlight. In their Competence Center, the Lindt Home of Chocolate, a pilot plant is being built at the Kilchberg site for research and training purposes. Stefan Schmid's team will coordinate the activities of this pilot plant as well as those of a second pilot plant at the Olten site and, in particular, drive the development of the basic recipes and processes to actively create knowledge for Switzerland as a hub for chocolate and innovation.

LINDT & SPRÜNGLI PRODUCT CYCLE

A 360° view of product development right
through to a true chocolate indulgence

Consumers – Point of Sale

Chocolate fans from all over the world plunge into the exceptional premium world of Lindt & Sprüngli and enjoy the exquisite creations with all five of their senses.

Packaging Development

The teams of packaging designers produce exceptional and high-quality designs for chocolate creations that turn the chocolates into a treat for the eyes as well as the mouth.

Sales Staff

The sales staff coordinate and foster Lindt & Sprüngli's customer relationships in order to offer consumers a unique chocolate experience at the point of sale.

Customers

Lindt & Sprüngli relies on long-term, trusted partnerships with the retail to supply chocolate fans from all over the world with premium chocolate.

Purchasers

The commitment to quality begins with selecting the right high-quality raw materials, assessing their quality and purchasing from long-term Lindt & Sprüngli partners.

Lindt
MAÎTRE CHOCOLATIER
DEPUIS 1845



Russell



Hofmann

Kühn

Consumer Needs



1.

Master Chocolatiers – Product Developers

With a great deal of passion and utmost care, the product developers produce exquisite chocolate creations to delight consumers all over the world.

2.

Product Managers – Marketing

The tasks of the product managers range from developing chocolate products with the product developers through to launching new products and managing the brand.

3.

Technologists

Process technologists work closely with product developers to implement their handcrafted products in the same high quality in production using the specified Lindt & Sprüngli process expertise.

4.

Mould Makers

Lindt & Sprüngli's product range always calls for creative solutions from its mould-making partners to always meet the numerous expectations for chocolate moulds.

5.

Plant Engineering

The handmade designs are implemented in production according to the Lindt expertise made available to the subsidiaries and in close cooperation with long-standing partners in plant engineering.

6.


Production Staff

Chocolate is their passion. Lindt & Sprüngli's production staff are fully dedicated to manufacturing refined chocolate creations.



URSULA BURI

LINDT & SPRÜNGLI SCHWEIZ
Kilchberg, Switzerland



Ursula Buri has been successfully leading the product development and quality assurance in Switzerland for almost 20 years. The team comprises Lindt Master Chocolatiers (product developers), technologists who put the Lindt procedures into practice and experts responsible for quality assurance and management. All product developments are based on the strictly guarded, secret chocolate recipes that distinguish Lindt chocolates and make them unique. The needs of the consumers are always at the heart of product development. It is therefore extremely important for Lindt & Sprüngli to work closely with local marketing teams to always meet the consumers' requirements exactly. When developing products, Ursula Buri focuses on two areas to ensure a well-filled pipeline for innovative chocolate products over the long term. Of course, these meet the high Swiss quality standards and make Lindt & Sprüngli the undisputed no. 1 in the premium segment.

The traditional development process starts with a creative team made up of Master Chocolatiers, product managers and technologists. The Master Chocolatier Urs Liechti manages

this main area. The product managers incorporate the far-reaching knowledge from market research, the results of test panels and the expertise of internal sensory specialists directly into product development. In addition to classic product development, Lindt & Sprüngli has also been relying on the open innovation platform, which is headed by Master Chocolatier Stefan Bruderer, since 2014. This is where numerous ideas, from international chocolate trends and expertise from external industries through to internal marketing innovation workshops are bundled and analyzed. The craftsmanship of the Master Chocolatiers and their teams is and always will be the start of every development since the masterpieces are always created by hand first.

"The Swiss team fully supports the high Swiss quality requirements of the entire Group."

Ursula Buri

How would you explain the enormous success enjoyed by the Lindor brand, which will turn an impressive 70 years old in 2019?

I think Lindor speaks to all five senses. Starting with the crackling of the packaging, the unveiling of the glossy Lindor truffle, the smell of the chocolate, the first bite into the crisp chocolate shell, all followed by

the smooth-melting core and intense moment of joy.

What has changed about R&D in Switzerland in almost 20 years?

The focus of development work has changed considerably over recent decades. In Kilchberg, almost 90% of what we produce nowadays is exported worldwide and our Swiss premium chocolate reaches over 100 countries. The relationship has reversed and with

it also the challenges and demands placed on the product development team, which has to meet the diverse taste preferences of consumers in the international markets.

Which project do you think has had the greatest impact on the Group?

We will be substantially increasing our capacity for cocoa mass production in Olten in 2019. Olten is particularly important for Lindt & Sprüngli as it supplies the production companies in Italy and Germany with cocoa mass. The Swiss site thus plays an even more important role in ensuring the strictly guarded mixing ratio of the cocoa beans and also compliance with the parameters for the roasting process, which are also specified by the parent company.



PATRIZIA PIROTTA

LINDT & SPRÜNGLI ITALY
Induno Olona, Italy

Patrizia
Pirotta



Product development at Lindt & Sprüngli in Italy has been shaped by Patrizia Pirotta for more than 33 years now. Her team of Master Chocolatiers, technologists, and sensory specialists combines their passion for chocolate with the pleasure of finding new solutions every day for the challenges posed by product development. The team integrates local consumers' needs and trends that correspond to the pronounced preferences of the Italian market into

product development. Italian chocolate lovers are generally very quality-conscious and have a significant preference for premium products. Next to the Lindt Gold Bunny, Lindt Noccior is one of the best-sellers in Italy at Easter. The large chocolate Easter egg with Piedmont nuts has delighted consumers since 1970 and has sold more than 10 million since then. As we all know, the best hazelnuts in the world come from Italy. The Italians' love of hazelnut is al-

most in their blood and it is not surprising that a combination of the finest Lindt chocolate with a crunchy coating of the best Piedmont nuts has proven so popular. The successful Noccior product has been further refined under the direction of Patrizia Pirotta and is now available in Italy in six different varieties with milk chocolate, dark and white Lindt chocolate. Patrizia's favorite, however, is and remains Noccior with Lindt milk chocolate.

Franco Mingardo



FRANCO MINGARDO

CAFFAREL ITALY

Luserna San Giovanni, Italy

Franco Mingardo has been in charge of product development at Caffarel near Turin, Italy's famous chocolate capital, for 20 years now. Working closely with the internal marketing specialists, the team is developing the finest chocolate products with a focus on exquisite Italian ingredients, such as the fine hazelnuts from Piedmont, and true craftsmanship. The choco-

late products must always meet the high demands of the Italian market for constant and creative innovation and quality. Giandua is a product that perfectly unites the typical Italian taste of fine dark cocoa with Piedmont hazelnuts from the Langhe. Since the birth of the Gianduiotto for the Turin Carnival in 1865, it has stood for pure Italianità. It is the absolute favourite

among Italians who love the small, bite-sized nougat pralines. With his team, Franco Mingardo has now developed more than ten different chocolate and flavor variants of the classic, which delight the whole of Italy.



GABY GILGENBACH

LINDT & SPRÜNGLI DEUTSCHLAND
Aachen, Germany

Gaby Gilgenbach



Gaby Gilgenbach has held management positions in Lindt & Sprüngli in Germany for more than 25 years and has headed up the department for 10 years. The Lindt brand stands for superior quality and a unique range of products. The aspiration of Lindt & Sprüngli Germany is and remains to continually maintain this level and delight consumers in a saturated market time and time again with an exciting range of products. The visual experience of the brand also plays a decisive role in this respect. It underlines the aspirations for the product and makes Lindt something extra special again and again.

Lindt is present on the German market with a very broad range of chocolate. This gives the entire team a great deal of creative freedom when further developing the fine packaging, unusual shapes and delicate fillings and never lets the fascination for chocolate fade away. Germany is the home of the Gold Bunny and the entire hollow-figure production for the Lindt & Sprüngli Group. Like Switzerland, Germany is a country of milk

chocolate enthusiasts, although the trend towards dark chocolate has increased significantly in recent years here too. The range of the international Easter star, the Gold Bunny, reflects this with 15 different varieties in designs that are more and more surprising every time. If you ask Gaby Gilgenbach about her true favourite among them, she'll say it is and always will be the Gold Bunny with Lindt milk chocolate.

"We're working on ensuring Lindt chocolate is always something extra special."

Gaby Gilgenbach

What is the greatest challenge in your job?

The greatest challenge is constantly ensuring Lindt quality along the entire value chain, from the raw material right through to the completed product, and keeping it at the highest possible level.

What is special about your team?

As well as the traditional roles, my team has its own packaging development department. Thanks to our close partnership with the marketing team, we are also able to pick up on market developments at an early stage and integrate them into our product development. The internal creative team is also an important success factor and one that strengthens the brand's refined design and makes it unique time and time again.

What role does sustainability play in Germany?

Our consumers are paying more and more attention to all aspects of sustainability. The Lindt & Sprüngli Group is already doing a great deal for sustainability at the source in the cocoa-growing countries with its Lindt & Sprüngli Farming Program. Our commitment to sustainability applies along the entire value chain. Issues such as sustainable raw materials and recyclable packaging are important to us.

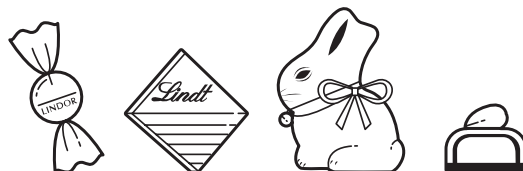


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PRODUCTS

Lindt & Sprüngli embraces the Swiss innovative spirit and passion for high-quality chocolate in all areas of the company. Starting with the selection of the finest cocoa beans, the high-quality raw material, continuous product innovations and the high standards for quality and production

right through to the latest technology in production. Innovation encompasses a 360° vision that affects all Lindt & Sprüngli divisions. In almost 175 years, the worldwide teams of experts that have been formed have created a unique product world for exquisite premium chocolate.





SARAH KELLER

LINDT & SPRÜNGLI USA
Stratham, USA





Sarah Keller has been responsible for product development in the world's largest chocolate market for ten years. At almost 30 years of age, Lindt USA is still a young production site in the Lindt & Sprüngli Group compared to those in Europe. Like in Switzerland, the production team in Stratham has its own cocoa mass production facility. The cocoa mass is produced with the specifications of the mixing ratio of the cocoa beans strictly guarded by the parent company as well as the roasting and processing method it has also provided. This allows the company to produce chocolate from "bean to bar".

Sarah Keller's team is made up of product developers, technologists, sensory specialists, quality managers, and the Consumer Service. With her team, Sarah Keller develops innovations for a market known for its tremendous speed and constant change and one that requires a high degree of flexibility. The chocolate taste in the US differs substantially to that of the traditional European markets and is more like the recipes that are successful in England. For example, Lindor with peppermint, which combines dark chocolate with an unrivalled minty freshness, is very popular. Chocolate with notes of peppermint is a traditional taste sensation especially in the seasonal business around Christmas. The limited Christmas editions of Lindor White Peppermint and the new Lindor Peppermint Cookie were a great success with consumers in the US.

How does the US taste differ to that of Europe?

As well as the importance of peppermint, the nut taste is also different from that in Europe, where hazelnuts and walnuts dominate the chocolate scene. In the US, however, it is mainly peanuts, almonds and pecans. We have recognized these nut preferences and implemented them very successfully with the development of Lindor Butter Pecan.

What important projects are planned for the coming years?

On the basis of the successful development in recent years, the decision was made to invest in the expansion of the production lines and the cocoa mass plant in Stratham. The planning and implementing of the expansion will continue to keep me and my team very busy over the next few years. We are looking forward to helping to shape the successful future of Lindt USA.

What other exciting challenges will the US market bring for Lindt & Sprüngli?

The US market still has huge potential for Lindt & Sprüngli as, although consumers used to have a preference for sweet milk chocolate, they are now increasingly discovering premium chocolate. Enthusiasm for Lindt's high-quality chocolate products is continuing to grow. We get good feedback from consumers who try our products handed out as samples and are won over by the "Lindt Difference".

"The challenge of convincing the US of the 'Lindt Difference' of our premium products is one that inspires me day after day."

Sarah Keller

STEVE GENZOLI

GHIRARDELLI CHOCOLATE COMPANY
San Leandro, USA

Steve Genzoli



Steve Genzoli has been in charge of product development at the Ghirardelli Chocolate Company, the US's oldest chocolate business, for 20 years now. Nowadays, a team of product developers, technologists, sensory specialists, food law experts and packaging designers develop the Ghirardelli product landscape. Just like Lindt, Ghirardelli also produces its products from

“bean to bar”. The focus was on maximum product quality even in the days of the founding fathers – it was never a trending topic. The brands Lindt and Ghirardelli harmonize the best on the US market and enrich one another. Developing products that delight consumers in the fast-moving US market is and will always be a great challenge for the Ghirardelli team. The continu-

ous development of the classic Ghirardelli square with its ever new fillings plays a particularly important role in delighting consumers in this respect. To this day, the Ghirardelli squares with milk chocolate and a creamy caramel filling are the best-sellers among the numerous varieties of the squares and make the life of consumers in the US “a bite better”.

Jill Beveridge



JILL BEVERIDGE

RUSSELL STOVER
Kansas City, USA

Russell Stover has been part of the Lindt & Sprüngli Group since 2014. The traditional brand, known for its “Bowline” praline packaging which rose to fame in the global cinema success of “Forrest Gump”, has since changed its focus in product development. Research into consumer needs has increased in importance. Since 2018, Jill Beveridge has been heading up Russell Stover’s product development department. This department

works closely with the marketing team to incorporate market needs into the product development process at an early stage. One of the first successes of this partnership was the further development of the sugar-free product line. This will allow Russell Stover to hold pride of place in this category for years to come. On the basis of recent market studies and consumer tests, the team also optimized the range, size and flavor of the

praline in the well-known leading product, the “Bowline”. The modified composition of the praline assortment and the new design have already received great feedback of the trade and will be launched in early 2019. For Jill Beveridge, this development project is proof that product developments are always most successful when they delight consumers, trade, and the brand.

Muriel Fery



MURIEL FERY

LINDT & SPRÜNGLI
Oloron-Sainte-Marie, France

The Lindt & Sprüngli France team has been developing products for the French market for 13 years under the direction of Muriel Fery. French consumers are very quality-conscious and enjoying good food also is a very important part of their everyday lives, which also has an effect on the chocolate market. In Europe, France established itself as a market with a preference for chocolate with a high cocoa content at a very early stage. Nowadays, almost 30% of consumers prefer dark

chocolate, which naturally also aligns with the increased demand for less sugar. In the rest of Europe, on the other hand, only 5% of consumers seek the particularly intense cocoa experience. Since 1989, the team in France has been continuously developing the Excellence product line, whose recipe is based on the “Surfin” recipe. This is provided by the Chocoladenfabriken Lindt & Sprüngli in Switzerland and is based Rodolphe Lindt’s original recipe for dark chocolate. To date, the team in

France has been further developing a wide range of Excellence bars to suit local tastes, which delight the discerning French connoisseurs of an intense chocolate taste. With sales of well over half a billion in France, the enormous success of the Excellence bars is testament to the focus of the development work in France. However, if Muriel Fery had to decide on one recipe, the Excellence bar with a 78% cocoa content would be her ultimate favorite.

A chef in a white uniform is shown from the chest down, pouring a fine, orange-colored powder from a white ceramic scoop into a large, stainless steel mixing bowl. The chef's left hand is positioned near the bowl. In the foreground, a metal whisk lies on a grey surface. The background is a plain, light-colored wall.

PRODUCT DEVELOPMENT AT LINDT & SPRÜNGLI – THE SOURCE OF OUR INNOVATIONS

Since 1845, Lindt & Sprüngli has stayed true to its core business and has been developing the finest chocolate using only high-quality raw materials. In Switzerland, every development starts with a team of confectioners who use traditional craftsmanship to create new products with Lindt's basic chocolate recipes in the product development department in Kilchberg.

“A box of pralines should be like a Picasso painting – it has to delight people.”

Urs Liechti,
Master Chocolatier



Making a praline is one of the most challenging tasks for a product developer. It involves all departments of product development working together until the chocolate delights consumers at the point of sale. The development process of every product starts with the product developer and product manager discussing the latest findings with regard to consumer needs in depth. On the back of these studies

and consumer surveys, the Master Chocolatiers continuously develop the traditional praline range for Lindt. The chocolate recipes are refined and new flavors and shapes developed to meet local preferences. Nevertheless, all product developments are always based on Lindt's exquisite, well-protected original recipes. Lindt & Sprüngli produces the finest pralines using only high-quality raw materials.

An entire team of confectioners develops the new praline using traditional craftsmanship in the product development department in Kilchberg. Behind every Lindt praline is a careful approach, bold attempts and a great deal of love for detail on the part of the Master Chocolatiers. It can take up to two years before fans can get hold of the crowning glory of chocolate treats – a new box of pralines.



The two Master Chocolatiers Urs Liechti and Julia Derungs masterfully making the praline Amande de Luxe in Kilchberg, Switzerland. The preparation process starts with the creation of a delicious almond nougat filling. After the filling has been cooled, the basic oval shape of the praline is cut out of the mass and carefully coated with the white chocolate mass at a temperature of 30 °C.



Highly focused, Urs Liechti decorates the pralines, which are freshly coated with fine Lindt chocolate, with a hint of light milk chocolate.



With the carefulness of a Master Chocolatier, he places the roasted almonds, coated in fine sugar, on each praline. For the grand finale, the bottom of the Amande de Luxe is dipped into a bath of dark "Surfin" chocolate. The Master Chocolatiers see the Amande de Luxe as one of the most demanding pralines in the Lindt world.





The quality of the cocoa beans is checked multiple times. Only the best cocoa beans are approved and make their way into production.



The guillotine test is used to evaluate various different quality parameters of the cocoa beans.





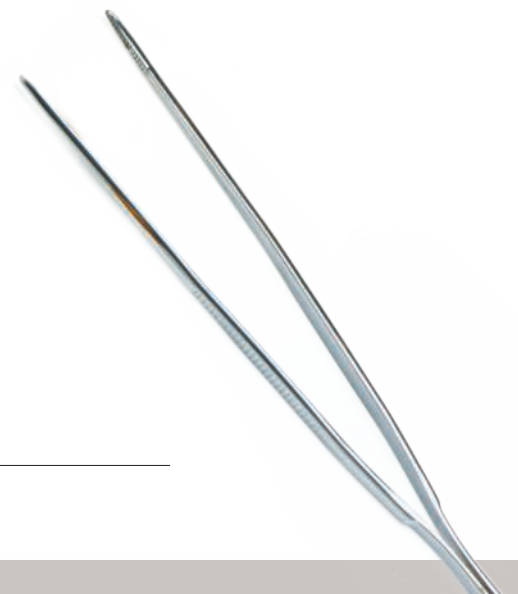
“Lindt & Sprüngli has always been synonymous with the production of the finest chocolate products with high-quality raw materials”.

Stefan Bruderer,
Master Chocolatier



Vanilla is one of the most expensive spices in the world. The experts assess the quality of the vanilla pods with a variety of tests.

In Switzerland, quality assurance in Kilchberg defines the high quality standards applied to chocolate products and product safety. High-level and consistent company hygiene in all production sites is strictly adhered to when making chocolate. Employees ensure Lindt & Sprüngli's high-quality promise through extensive microbiological, chemical, physical and sensory tests that follow production from the raw material right through to the finished product. The first tests are already underway, with sensory tests to describe the cocoa bean profile in the country of origin so that consumers can always enjoy the Lindt experience to the fullest.





“Implementing our global quality strategy guarantees that our high demands are ensured at all production sites.”

Adrian Gisler,
Head of Quality, Lindt & Sprüngli International

Alongside these tests, sensory tests using all five senses also accompany the selection of cocoa beans and the entire production process through to the finished product. Additional tests are also carried out during the early stages of cocoa mass production in Olten and in the logistics center in Altendorf in order to fully ensure the high quality standard.



Raw materials and semi-finished products are tested for any contamination using gas chromatography analyses.



Incoming raw materials, semi-finished products and finished products undergo microbiological tests before they are released for further processing.

In this way, the team in Switzerland guarantees that the product safety standard is state-of-the-art for the entire supply chain, from supplier to consumer. International food law experts in the department also play an important role in this respect. They are experts on the food laws in Switzerland and in the markets supplied from Switzerland, ensuring the marketability of all products.



Tests to determine the degree of crystallization of the cocoa butter. This is an important quality parameter for subsequent chocolate production.



The samples are checked under the microscope for possible contaminants.

