O-COM

THE OPTIMA MAGAZINE

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GREEN PACKAGING, NOT GREEN-WASHING

HONEST PACKAGING IS THE FUTURE

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LOOKING AHEAD: OPTIMA TURNS 100

Dr. Stefan König
Managing Director,
OPTIMA packaging group GmbH

Dear readers,

Shaping the future is a task that we at Optima focus on daily with great dedication and commitment. In almost 100 years of our company's history, many generations of employees have found the right answers to the topics of their time.

Today this diversity of topics is greater than ever. Sustainability, digitalization, high quality with utmost (cost) efficiency as well as rapidly changing markets and expectations of consumers often need to be achieved in equal measure. In this edition of our customer magazine, read about the innovative packaging solutions which have been realized exactly in light of this. Even fuel cell production will be brought to the next level with Optima technologies from now on.

And once more these solutions demonstrate that a company thrives on the creativity, reliability and the expertise of its employees – and that future issues hold great opportunities. That was already the case during the founding years and still applies unchanged today. That is why our motto for 2022 is "100 Years of Future". Thank you for your ongoing trust and partnership. Let's continue this success story together.

Yours,

Dr. Stefan König

16 Green Packaging, not Green-washing

Packaging that really takes into account the principles of the circular economy – this is what Optima's Sustainability Department is developing. The title article deals with two packaging solutions that are simple and at the same time environmentally friendly.

20 The new OPTIMA FS1 is here

The OPTIMA FS1 for sanitary napkins has been specially designed for the Asian market and other international markets. Benny Antonio of Fiberline Industries Inc. reports why he chose the new development of Optima Nonwovens.

26 New format parts within hours

3D printing opens up completely new possibilities for machine users and Optima. This practical example involves new format parts from the printer, which are available within a few hours. This is exactly the right solution for the fast-moving cosmetics market.

NEWS

Markus Irle, Vice President Firewall & Security at LANCOM Systems (left), and Dr. Eng. Benjamin Haefner, Group Leader Industrial IT at Optima

Cybersecurity at the highest level

Optima has joined forces with cybersecurity specialist LANCOM Systems to develop a new type of VPN solution for machines and systems. As a result, it is now possible to establish an even more secure connection with the systems installed at the customer's site and maintain them remotely. The solution allows for VPN connections monitoring, protects the machine network at the customer's site with a firewall and is particularly user-friendly. "These functionalities are one-of-a-kind on the market and ensure maximum IT security," says Dr. Eng. Benjamin Haefner, Group Leader Industrial IT at Optima.

More about this topic at:
www.optima-packaging.com/cybersecurity

OPTIMA joins Open Industry 4.0 Alliance

Optima strengthens together with other member companies of the Packaging Valley packaging cluster the Open Industry 4.0 Alliance. Joint working groups will implement standards for practice and develop best cases in the packaging industry. The focus is on master data management, plant analytics and predictive maintenance. The Open Industry 4.0 Alliance is a partnership of European industrial companies that pragmatically participate in the implementation of cross-manufacturer Industry 4.0 solutions and services for machines and plants as well as automated warehouses. The alliance was launched in April 2019. The association is headquartered in Reinach, Switzerland. Around 90 companies are part of the alliance.

New Managing Director at the OPTIMA packaging group: Dr. Stefan König

As of March 1, 2021, Dr. Stefan König is Managing Director at the OPTIMA packaging group GmbH. Together with Hans Bühler (CEO), Gerhard Breu (Chairman, Optima Pharma Division) and Jan Glass (CFO), König will be responsible for the ongoing development of the Optima Group. The primary focus will be on products and markets. Before he joined Optima, the 55-year-old König with a PhD. in Mechanical Engineering had held senior management positions for over 20 years, most recently as CEO of Bosch Packaging Technology (now known as Syntegon Technology).

OPTIMA supplies 50th bundler to Hayat

Hayat, based in Turkey, offers products in the hygiene, home care, tissue, and personal health categories, exported to over 100 countries. Today, Hayat is the world's fifth largest branded baby diaper manufacturer. Optima and Hayat have worked closely together since 2003, and in 2021 this culminated in the delivery of the 50th Optima bundler. Both companies are proud of this special occasion. Other multipackers are already in production. During the 18 years of close partnership, Optima has continued to optimize the bundlers and adapt them to customer requirements. Quick and practically tool-free format changeover is an example of this. The OPTIMA BD12 bundler can be switched to a new format in 15 to 30 minutes. The multi-unit packs have a width of up to 800 mm, a length of up to 1,200 mm and a height of up to 400 mm. The output is twelve multi-unit packs per minute, which meets the typical market requirements. All bundlers are produced to the highest standards at the Brazilian Optima site Vinhedo. Read more about the long-term cooperation with Hayat from page 36.

The project team of Optima do Brasil with the 50th bundler for Hayat.

Complete solutions for fuel cell production

Clean energy generation is one of the most important topics of the future. Electricity from hydrogen is considered one of the key technologies, especially in the field of mobility. Fuel cells, which generate electricity electrochemically from hydrogen, are still often produced by hand or in small series. Optima Life Science is now presenting a fully automated, scalable manufacturing line for fuel cells for the first time. The new lines include the functions of coating, cutting, assembling the individual layers and stacking to form the fuel cell stack. Roll material is processed in a continuous process. Proven technologies have been adopted or adapted. Werner Volk, Director New Applications/Concepts at Optima Life Science (pictured left), and Juergen Bareiß, Head of the Optima Life Science business unit, also point to the global support that Optima offers for the manufacturing lines right from the start.

More than 100 OPTIMA DS1 sold

The OPTIMA DS1 packaging machine was developed to meet the specific needs of Asian diaper manufacturers. This approach has proven to be successful: The first order was placed by a Pakistani company in April 2015, and by September 2021, just over 100 machines from the DS1 family had already been sold. In some cases, orders for five and ten units were placed, generally by locally operating companies. Over 95 percent of the machines went to Asia. The OPTIMA DS1 is the basic machine that can already be synchronized with a diaper making machine (converter). The machine family also includes the OPTIMA Luck with higher packaging output and the OPTIMA Midnight with a larger format range.

PIONEERING!

The paper hygiene products market and its packaging are undergoing massive change. There are three main drivers behind this, says Oliver Rebstock, the Managing Director of Optima Nonwovens. Is there urgent need for action?

In many parts of the world, consumers are putting their consumer behavior to the test, particularly when it comes to packaging. Sustainability is one of the central issues of the future for many people, particularly in Europe and North America, as well as in South America.

Major companies, non-governmental organizations (NGOs) and politicians in Germany agree that the environmental impact of packaging needs to be reduced. Currently, something that does not exist is a consensus on the best solutions to use. There are new ideas out there for packaging paper hygiene products, but Oliver Rebstock, the Managing Director of Optima Nonwovens, is convinced that for the foreseeable future, the most diverse approaches will continue to coexist. "Many things are imaginable, from single-material packaging, which already exists and provides optimal conditions for recycling, to a deposit system for diaper packaging made of Plexiglas, for instance, but from the current perspective this is still a utopian idea. Nonetheless, here within the company we initially accept a wide range of ideas here, even some of the 'wilder' ones."

Open to new things

It's clear that in many parts of the world, the paper hygiene product markets have become saturated. With saturated markets comes diversification and personalization, according to Oliver Rebstock. "Here, we benefit from the Optima Group's experience and are currently seeing a development in paper hygiene that is very reminiscent of the cosmetics industry, for example shampoos." The range of products available is becoming more diverse, and providers want to set themselves apart and draw attention to themselves by offering specific features. This not only concerns the products themselves. Increasingly, marketing and packaging technology are now converging: special promotions, special designs, matching product add-ons and customization. The precondition here is that packaging technology – like environmental protection – is capable of performing these new tasks.

The third aspect is packaging aesthetics and quality. Classic PE bags for paper hygiene products continue to have great potential, notably in terms of aesthetic optimization. The criteria here are symmetrical film packaging, exact alignment along the side gusset, for instance, and packaging tautness. Here, too, there is a close relationship with marketing requirements. According to Oliver Rebstock, there is no question that for fast moving consumer goods, packaging aesthetics will also play an even more important role in the future. "If the price and product are comparable, when in doubt consumers will always choose nicer packaging," is the core of his argument. User expectations rise.

Will everything change?

These highly divergent trends are expected to "coexist." In an ideal world, it will be possible to combine the demands of marketing with ecological objectives. Furthermore, the change is not disruptive. Classic PE bag packaging has not become obsolete, but it is being complemented by numerous variants and varieties.

IMPORTANT FOR YOU

- Diverse trends challenge manufacturers of paper hygiene products. The market is on the move.
- Internationally, the importance of environmental protection is increasing strongly. Convincing solutions can be realized with existing Optima equipment.
- Individualization and diversification as strategies against incipient market saturation: Innovative technologies provide answers.
- Aesthetics win: Optima has developed new modules to make pouch packaging particularly appealing.

Oliver Rebstock tells us that previous key performance indicators for packaging processes, such as output and machine availability, remain important. On top of that, technological options for new requirements have become a criterion that is complementary and just as important. This enables Optima customers to actively accompany change and drive it forward in the marketplace. This fundamental strategy is already being pursued by Optima Nonwovens in terms of R&D, and it will continue to do so.

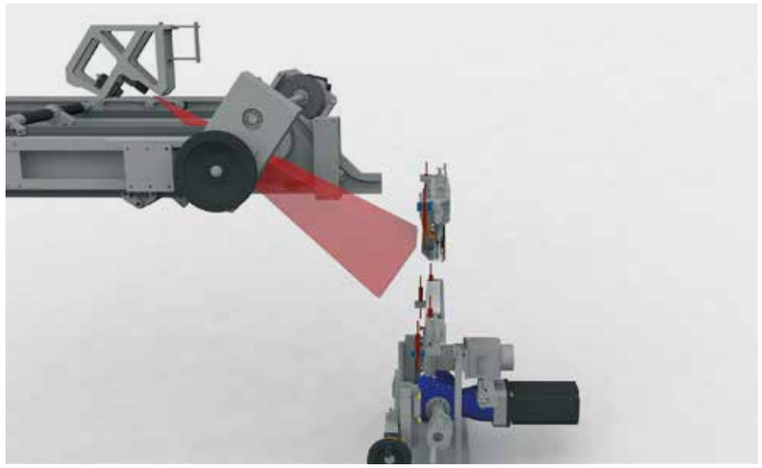
The good news is also that with the equipment they already have, Optima machine operators are very well prepared for the changeover. With an additional small to medium investment, new packaging materials can be tested, or a new level of packaging aesthetics can even be attained. Optima is already making a significant contribution to positively managing this change.

Well-prepared

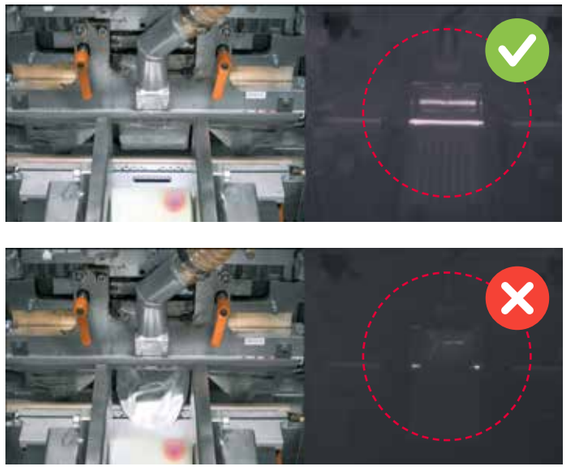
This changeover and the technical developments associated with it have been on the R&D radar long before 2021. One example of this is the OPTIMA ZERO concept machine. The underlying idea had been conceived over ten years ago, but at the time it was not technically feasible. The real show-stopper came at INDEX 2017 when Optima presented the OPTIMA ZERO as a leader in technology and provided a glimpse of the not-so-distant future in paper hygiene packaging. A machine that packages a varying number of products in film from cycle to cycle and can print them with different, individual motifs.

A new aesthetic for diaper packaging achieved by Optima with recent innovations.

The new welding module makes for classy packaging. Additional upgrade kits are available that can be flexibly adapted to suit all packaging materials.



Two cameras (top left in the picture) are pointed at the welding station: a conventional camera and a thermal imaging camera.



The thermal imaging camera (right) allows differences (top to bottom image) in the weld to be detected even at high speed.

"This represents the maximum in flexibility, which of course is not yet required by the market in this format, but it shows that it works, and the things that we have learned with the OPTIMA ZERO can now be applied to serial production for what is needed today," says Oliver Rebstock. Furthermore, as part of the Optima Group, Optima Nonwovens has access to a range of technologies that is unparalleled in the industry. Cross-links with the pharmaceutical, consumer and life science industries have lead to new, even unconventional ideas and solutions.

"Our core skill is taking paper hygiene products out of the manufacturing process at any speed, handling them smoothly and gently, and stacking and arranging them into precisely aligned, compressed configurations. For the time being, the packaging material we use to package them is only secondary for us." Packaging in PE films – opening bags, inserting the compressed stack, sealing bags – is what Optima Nonwovens has been known for for decades as the world market leader. Developments in this area will be consistently pursued, but they are already being expanded to include innovations and new options in light of changing markets.

MORE ABOUT THIS TOPIC

Packaging aesthetics for pouch packaging

- The basic requirement for high quality packaging aesthetics in paper hygiene products is tautness. Only taut film or paper bag packaging will be able to effectively showcase the print motif and radiate high quality. The prerequisites for tautness are precisely stacked or formed products, and a product stack or formation that prevents them from slipping inside the bag through defined compression and the corresponding transverse forces. The OPTIMA LS stackers are already known for doing just that. However, what is new are the welding modules that can produce the longitudinal compression required. The packaging produced using this method is uniformly tight on all sides and meets the most stringent requirements.
- Packaging aesthetics also demand an ideal bag design. This term encompasses everything that contributes to perfect packaging symmetry. These are specifically cleanly contoured side gussets, which, like the weld seams, should be symmetrical to the shape of the product stack. New upgrade kits and vision systems enable Optima Nonwovens to provide solutions that elevate the criteria described above to new levels and safeguard them inline – no matter whether it is paper packaging, PE or biodegradable film.

New technologies, functions and modules

For environmental protection:

- Existing Optima packaging machines can always be upgraded to process paper bags, as well as organic-based and/or biodegradable films. Performance is almost identical to the level achieved when using PE bags.
- Single materials are perfect for recycling. Patent-pending packaging from Optima combines a transparent film with an eye-catching printed paper insert that is slipped in alongside the paper hygiene products. During disposal, the two (mono-)materials separate by themselves. (Current projects related to the topic of sustainability are presented starting on page 16.)
- The following is still a pipe dream, but a feasible one – deposit systems for diaper packaging, for example, where boxes made of metal or plastic are used. The expertise for this is available in the wet wipes sector, among others.
- All of the packaging materials mentioned above can be conveniently combined with banding of paper hygiene products (Femcare and diapers).

For diversification

- Custom printing: Retailers love special promotions, and not just for the holiday season. From now on, film packaging can be customized in its design – with full output. Partially printed films are used for this purpose, which make commercial sense, and are complemented by particular motifs for specific promotions or special events. Even multilingual, country-specific information can kept to a minimum and the space available for design can be increased.
- Cross-selling or promotions with insert systems: Corresponding product add-ons increase the interest in purchasing. In the case of baby's diapers, this could be a changing pad, cream or wet wipes, for instance. Optima has insert systems for the automated handling of many different products in its portfolio.

For the highest levels of packaging aesthetics and quality

- Better welding. Optima's new welding module combines numerous technical innovations for a new packaging design aesthetic. The packing's longitudinal compression has also been optimized. As a result, in the future pouch packaging will deliver uniform tightness in all dimensions. Furthermore, automated bag calibration ensures that the side gussets are aligned in a particularly precise manner. Additional innovations in sensor technology and visuals deliver a new aesthetic packaging experience. Perfect also for paper bags.
- Optical inspection systems. It is a challenge to carry out white-to-white matching at extremely high speeds, but this is now being mastered by new vision systems. This allows optical quality criteria to be checked inline and individual packs to be rejected as necessary.
- It can always be better. New upgrade kits address packaging quality and ensure superior packaging aesthetics.

STRATEGY

IMPORTANT FOR YOU

- A global trend: coffee capsules are booming.
- Regionally, the markets differ considerably in some cases. In North America, K-Cup plastic capsules dominate, while in other regions, for example, aluminum capsules are very much in vogue.
- The market is on the move. Examples: Small roasters in South America starting capsule production, espresso systems in North America, and sustainability projects in all markets.
- Crucial for global players: the highest quality, flexibility and line efficiency as well as complete lines that include cartoning.
- Start-ups benefit from entry-level solutions.

COFFEE CAPSULES ARE BOOMING

Coffee is one of the most popular drinks in the western world, as a drink to wake you up in the morning or to enjoy at any time of day. Below, the international coffee experts at the Optima Group provide information on how the market for coffee capsules differs internationally, and the demands this puts on technical concepts.

First, a common feature across all regions – coffee capsules are booming! There are already clear differences between the different capsule systems. In the USA and Canada, consumers prefer coffee that is produced by low-pressure brewing, says Markus Konz of the Optima Machinery Corporation in Green Bay, USA. The K-Cup system dominates the market, with coffee predominantly being drunk in comparatively large cups and mugs, both at home and on the move. There is still low demand for coffee based on the espresso method, but demand is on the rise.

From small to big

It is quite different in Europe and South America. There, espresso and creamy coffee capsules are clearly the most popular with consumers, say Andreas Dreschner (Optima Consumer, Schwäbisch Hall) and Michael Siebmann (Optima do Brasil, Vinhedo). Siebmann adds that in South America, the market share of milk-mix drinks is strongly on the rise; it is even in first place in countries like Argentina and Colombia.
Brazil is known as being by far the world's biggest coffee producer, but it has another special feature. There are more and more small businesses taking the plunge from growing green coffee to roasting coffee, or from being a medium-sized local roaster to becoming an exporter. This often includes entering into producing coffee capsules, so it is not surprising that the entry-level model for coffee capsules, the OPTIMA CFR2 with an output of 100 to 200 capsules per minute, comes from Optima do Brasil. Various small and medium-sized roasting companies in Europe are now also starting to produce capsules, and the first OPTIMA CFRs are in use there as well.

Globally, complete solutions are in demand

On the other end of the "performance scale", there is an increasing demand for complete solutions, especially from the international industrial giants, says Andreas Dreschner, Technical Sales Manager. In addition, increasingly complete lines are now bought by co-packers, who, in turn, work for branded companies or discounters. In complete solutions, function follows function, from stacking the containers, to the dosing and sealing processes, and the cartoning processes.
"The highest standards apply in this segment, for sure," emphasizes Dreschner. Line availability is geared to the 100 percent mark and is a differentiator in the market. For Dreschner, system flexibility is an important trend within the complete lines in high demand: "Today, the market demands sales packaging for ten capsules, tomorrow it will be 17. That's what our systems can do, even at extremely high output."

High output: Up to 2,400 capsules per minute are produced with a OPTIMA CFL, and checked inline.

The processing quality is tested and assured by means of a range of process controls. The packaging processes for aluminum coffee capsules also require particularly gentle handling.

Efficient introduction to capsule processing with the OPTIMA CFR2

Movement in materials

Sustainability is an important issue that, in large parts of the world, is also playing an increasingly prominent role in coffee capsules. The current demand is mainly for systems that either process aluminium capsules or capsules made of biodegradable or compostable materials. Aluminium originates from the premium sector and indicates the highest quality. At the same time, more and more discounters have picked up on this trend to position themselves on a similar basis. In parallel to this, compostable capsules have established themselves in the marketplace, reports Andreas Dreschner. The handling of aluminium capsules requires particular expertise and sealing compostable capsules also poses its own challenges, so systems engineering in Europe is experiencing a major boost in demand due to these trends.

Although plastic continues to be the preferred capsule material for K-Cups in North America, compostable solutions are now also being launched by many companies. According to a 2018 study, younger generations (Millenials and Generation Z) in the USA and Canada in particular are willing to pay extra for sustainability. The market in Brazil and South America is also evolving in terms of compostable packaging. Sustainability projects have already been implemented with market leaders and demand is growing. As, incidentally, is also the case with aluminum capsules, which are becoming increasingly popular. At the same time, plastic capsules continue to be present and are preferred in the price war among low-cost suppliers. Overall, the potential here is still huge. Michael Siebmann says that coffee capsules still account for less than two percent of the total coffee market in Brazil.

They want quality

The experts all report that customers in every region attach the greatest importance to very high quality in terms of the processes, irrespective of the capsule systems. This particularly includes dosing accuracy for the coffee as well as all processes and materials that help to minimize the coffee coming into contact with oxygen until the moment it is brewed.

THE LOVE OF COFFEE

According to the newspaper "Frankfurter Allgemeine Zeitung", coffee is the second most important global commodity after oil. Currently, coffee prices are climbing sharply – especially the prices of high-quality Arabica varieties that depend on consistently mild climates. Extreme weather conditions are increasing worldwide and disadvantage Arabica varieties in particular. Growing areas will have to be relocated to higher elevations, which will, in turn, be more difficult to cultivate, requiring more manual labor. Brazil is by far the world's largest producer of green coffee, and is expecting its own coffee production to fall by around one third in the current 2020/2021 coffee year, reports the ICO (International Coffee Organization).

In many cases, consumers are aware of small coffee farmers' difficult living conditions in particular, but without any more progress, the hope that producers in particular benefit from the current rise in coffee prices will not be realized. There are numerous reasons for this – weather/climate-related crop failures, pandemic-related logistics problems, higher costs for fertilizers and pesticides, and more expensive packaging materials for coffee farmers. All of these could prevent this from happening, or offset price increases.

Who drinks the most coffee?

Globally, the most coffee is drunk in the USA and Brazil. This is followed by Germany. The German Coffee Association (DKV) has found that, during the pandemic year of 2020, eleven percent more coffee was consumed at home in Germany than in the previous year, which more than made up for the massive reduction in consumption outside the home. This was despite the fact that prices had already risen slightly and German coffee drinkers are considered to be quite price-sensitive. On the one hand, coffees with quality seals like Fairtrade, which offer price protection for coffee farmers, and UTZ/Rainforest Alliance for environmental protection are demonstrating continuous growth in Germany, while on the other hand they continue to eke out a niche existence. In 2019, Fairtrade coffee accounted for only five percent of the total volume (by weight) consumed in Germany.

Interestingly, the proportion of coffee produced according to UTZ/Rainforest Alliance criteria in Brazil is already around 36 percent (2018). Brazilian and Vietnamese farmers also have the most efficient cultivation and production methods. By contrast, in many other growing countries, it is the small-scale farming structures that usually dominate. In these operations, there is often insufficient knowledge and capital to make a decent living from growing coffee. That is why the renowned economist Jeffrey Sachs (Director of the "Center for Sustainable Development", Columbia University) is calling for an umbrella strategy that involves coffee roasters and governments in order to sustainably improve the situation of small and micro farms and to preserve their growing areas.*

The bottom line is that the market researchers at Statista and Co. are predicting increasing coffee consumption in Germany, despite rising prices. As long as there is increasing prosperity in many countries, international demand for coffee is also likely to continue rising.

You can find more up-to-date information on the international coffee market on the back cover of this o-com issue.

*"Ensuring Economic Viability and Sustainability of Coffee Production", Jeffrey Sachs et al., available at ccsi.columbia.edu/works/coffee; Other sources: "Coffee in Figures No.10, 2021", Tchibo und Brand eins, Hamburg / "Why Coffee is Getting More Expensive", Frankfurter Allgemeine Zeitung Online, 2021-06-07 / "Wake-Up Call and Revenue Generator", Frankfurter Allgemeine Zeitung Online, 2021-03-29

INNOVATION

IMPORTANT FOR YOU

- In the context of Optima's sustainability strategy, besides resource-saving machines with a low CO_2 footprint, sustainable packaging solutions are also developed.
- Two sustainable packaging solutions have been developed by Optima: the sleeve bag and the world's first paper packaging for feminine hygiene products.
- Flexibility allows sustainability: All Optima Nonwovens' packaging systems can be flexibly converted from packaging in film to paper and vice versa.
- Also a core element of the Optima Group's sustainability strategy: Partnerships along the value chain and honest packaging

GREEN PACKAGING, NOT GREEN-WASHING

Sustainability is a future-oriented issue. The way forward is being set today, and it requires interdisciplinary strategies. It is not always necessary to reinvent the wheel. Two sustainable packaging solutions co-developed at Optima are proof of this. One solution received the German Packaging Award, the other is in the running for the Innovation Award for Climate and Environment by the German Federal Ministry for the Environment. Optima Nonwovens' machine technologies are equipped for the new packaging materials and proven in practice.

"Particularly in terms of sustainable solutions, we are now addressing this issue collectively and at a much earlier stage, from the packaging material to the machine to the entire life cycle of the packaging material and the machine," explains Dominik Bröllochs, Group Sustainability Manager of the Optima Group. This is now only possible by working as a network. As a result, project run times would be massively shortened, risks minimized and results improved. Taking diaper packaging as an example, Dominik Bröllochs presents a solution, which is in the interests of marketing and ecology: the sleeve bag, a 100% recyclable mono-polyethylene (PE) packaging for paper hygiene products, such as diapers, sanitary napkins or even toilet paper.

Product protection, recyclability and diversification

Diapers or sanitary napkins contain super-absorbers for absorbing fluids reliably. In order to ensure the required product protection from the manufacturer to the customer, especially for the super-absorber, plastic packaging is necessary. "We take the view here that no single packaging material is more eco-friendly than another for various products. It makes no sense to basically switch everything over to paper," according to Bröllochs. Unprinted mono plastics today can achieve a quality via single-variety recycling that matches the quality of the original material. That's why, here, in a fully automated process, a paper or PE sleeve is inserted together with the products into transparent PE bags. Only the sleeve is printed to attract attention. The bag and its contents look tightly packed and of high quality. The use of mono materials and the loose connection between bag and sleeve allow these to be separated by the consumer, or at a later stage in the recycling plant by means of existing sorting technologies. The packaging is easily disposed of via the dual system. Classic PE, recycling PE as well as bio-based PE and biodegradable PE can be used for the transparent polyethylene bag.

With the existing solution on the market (printed PE bag) no actual recycling is possible; only downcycling, which does not meet the goal of the circular economy. If the transparent sleeve bag is recycled, on the other hand, high quality recycling material can be obtained, resulting in PE bags being developed again without any reductions in quality. The sleeve bag offers the opportunity for a real Cradle to Cradle concept adds Bröllochs. If the printed insert (necessary for marketing, barcodes, etc.) is made of paper, this ensures high quality recycling. Bleaching technologies have been used in paper for a long time now, which is why the print color can be removed from the fibers. This means that after recycling, the paper fibers used can be reused as packaging material. The choice of material for the insert, whether PE or paper, depends on the customer's sustainability strategy and the country in which the packaging is also disposed of.

There are many different kinds of recyclable plastic packaging on the market. On the topic of Design for Recycling, however, it should also be considered that the packaging material has a high value later in its life in terms of the packaging design, and a corresponding customer market. Take the sleeve bag as a example: Transparent recycling material is one of the most sought-after recycling materials on the market with a high value. This means the

❮ Recycling according to the Cradle to Cradle principle, means that the material can and also will be reused again and again for the same product, because it involves pure materials.

The feminine hygiene products are pushed at high speed through the shuttle to the opened pack.

chance for reuse is drastically increased. Optima has gone one step further and no longer talks about Design for Recycling, but about Circular Design, which includes the flow of recyclable materials in its approach. After Design for Recycling, Circular Design is the next step required for a functioning circular economy, Bröllochs emphasizes.

The prospect of a functioning circular economy

In summary: The sleeve bag offers the prospect of a functioning circular economy according to the Cradle to Cradle principle. The safe installation of the paper insert and the encasing of the products is a new, innovative process by Optima. This process can be retrofitted for existing packaging machines, which also contributes to sustainability. "With the sleeve bag, Optima has developed honest packaging. In terms of sustainability, honest packaging is the only way that we want to go forward with our customers. The sleeve bag shows that it's not always a matter of having to develop complex new materials, but the boldness in simplicity of package is often just the beginning. However, despite the simple composition at first glance, this packaging is innovative and ecologically profitable," stresses Bröllochs. The packaging was certified by the cyclos-HTP institute as "excellent to 100 percent recyclable". The cyclos-HTP GmbH institute, based in Aachen, Germany, tests and certifies the recyclability of packaging. The sleeve bag is also shortlisted for the Climate and Environment Innovation Award of the German Federal Ministry for the Environment.

Optima now also packs feminine hygiene products in paper bags.

Since the sleeve bag is made of mono materials, the individual packaging components can be separated by the consumer easily and recycled. The packaging has been certified by the cyclos-HTP institute as "excellent 100 percent recyclable".

Paper bags are manually added to the packaging process.

Flexible conversion of packaging material

Optima is not only active in the area of packaging development; the machine technology also provides optimal conditions for a flexible conversion from PE to paper and vice versa, reports Bogdan Zaczek, Key Account Manager at Optima Nonwovens. All machine solutions by this business division are flexibly adaptable. Conversion takes no longer than a normal format change. This means ad hoc tests with paper or bioplastics, for example, can be run. Further optimizations in terms of efficiency and output are possible at any time. Together with Fripa, the 100% "Paper in Paper" solution has been implemented for the first time at Optima Nonwovens. There, toilet rolls are packed in paper bags with the OPTIMA OSR. "Now we have converted further lines of our customers for diapers, toilet rolls, paper towels and feminine hygiene products for processing paper packaging," adds Zaczek.

"In addition, we are receiving more and more requests for the flexible processing of different packaging materials right from the outset," adds Markus Urich, Key Account Manager at Optima Nonwovens. In a project concerned with the packaging of feminine hygiene products, fully recyclable paper was used as packaging material for the first time in the world. This case demonstrated that paper with reduced printing and without any plastic coating can definitely be an alternative to plastic for hygiene products. The packaging will soon be available in retail outlets everywhere and has even received the German Packaging Award 2021. The jury comments: "Paper is not always an appropriate substitute for plastic when it comes to FMCG packaging (FMCG: Fast Moving Consumer Goods). Here, paper is a sustainable alternative that can be recycled easily." The development partnership with Voith Paper gives Optima the ideal conditions to develop further packaging for products for which paper packaging previously seemed unthinkable.

Whether paper, PE or bio PE – it is essential to integrate product protection, sustainability and marketing successfully with one another. The machine technologies required for this are available at Optima. This ensures the new packaging solutions have a successful future. The Sustainability Solutions team – Dominik Bröllochs and Ulrich Burkart – as well as the sales experts at Optima Nonwovens will be happy to advise you.

https://www.verpackung.org/en/events/deutscher-verpackungspreis-2021/auszeichnungen/always-cotton-protection

MORE ABOUT THIS TOPIC

www.optima-packaging.com/sustainability

THE NEW OPTIMA FS1 IS HERE

The standard version of the OPTIMA FS1 achieves a performance of 1,000 sanitary napkins per minute in the infeed. It can process up to 60 packs per minute.

IMPORTANT FOR YOU

- The new OPTIMA FS1 for sanitary napkins has been specially deigned for the Asian market and other international markets.
- The machine functions via wide settings ranges at full performance potential.
- Differing types of sanitary napkins and bag packaging are handled flexibly – like a normal format changeover, which means without module changeover.
- The product alignment is flexible.
- Top service: Remote and locally on site

Packaging sanitary napkins with a high level of efficiency and in first-class quality is the key task of the new OPTIMA FS1. The machine platform is the perfect solution for Asian and other rapidly developing markets and handles many different product and packaging options. The first deliveries are scheduled, the first customer feedback is already here.

"Asia is the patron so to speak, but the OPTIMA FS1 actually suits many markets globally," says Andreas Rothbauer, who played a key role in developing the new machine. But when does a machine actually suit a specific market? Let's skip classic evaluation criteria such as output, on-site service, packaging quality and more.

In fact, each investment in automation is competing with the wage level of local labor markets. The systems have to suit the labor market of the target region. It may sound a bit strange at first. However, the example of Asia shows that it is expensive to pay highly trained workers. High speed packaging systems require excellent technical skills in operation in order to realize the full potential. So the local focus is mainly on systems with medium output. On machines that run continuously, that are proportionately easier to operate and allow tolerances in the settings.

If this is a given, the packaging company gains the assurance of finding suitable affordable staff to operate the machines to their full potential. The new OPTIMA FS1 is such a machine.

Broad-scale basis – the new OPTIMA FS1

What the OPTIMA DS1 initially demonstrated in the packaging for incontinence products is now also offered by the OPTIMA FS1 for sanitary napkins – just on a wider scale. The first machines scheduled for delivery differ, however, they do have one identical basis.

Initially there will be a standard version going to a Philippine family business. The performance: Up to 1,000 sanitary napkins are inserted into the machine every minute and up to 100 packages leave the machine every minute. The second machine will feature a higher output: Up to 1,200 sanitary napkins that are packed into up to 120 packages per minute. This machine also handles three different bag configurations flexibly. The third machine will feature a new hybrid conveyor to handle the three different bag configurations, however it will be equipped with a newly expanded format range for larger packaging formats. A fourth order, also deviating from the standard version, will be completed shortly.

The OPTIMA FS1 has a dual-lane design as standard.

The OPTIMA FS1 with the turnbox. This changes the alignment of a sanitary napkin stack and tips this forward by 90 degrees.

The designs are as varied as the companies placing the orders. The customers already range from local, rapidly growing family businesses to global players that produce locally.

Three bag configurations without module changeover

Asia is known for excellent looking packaging, where the importance of the packaging can almost equal the contents inside. The version of the OPTIMA FS1 with hybrid conveyor, which handles varying bag configurations, is ideal for this. This includes the stand-up pouch, which represents especially high quality packaging aesthetics.

The new hybrid conveyor is also of particular interest for Asia because a special type of sanitary napkin can additionally be packed: In Asia, the increasingly popular Femcare Pants, or FC Pants for short, are sometimes also used as a Light Inco product. These are mostly worn like underwear instead of typical sanitary napkins. They are not just suitable for overnight protection, they are becoming more popular to wear during the day because they're easier to use. The dimensions of this product differ considerably from other sanitary napkins. With the hybrid conveyor, the bag configurations can be changed at any time during a standard format changeover. Changing format parts on the OPTIMA FS1 is sufficient for packaging in stand-up pouches, side-folded bags or in bottom-folded bags.

The stand-up pouches have only recently appeared in the area of paper hygiene products. But with the rise of FC Pants in Asia, this type of packaging has already successfully established itself. For its product features, the stand-up pouch and its strength of shape is the only high quality packaging solution. Here, there are hardly any limits to the shape, and the scope is creatively used by Asian packaging designers, reports Andreas Rothbauer, who has lived in Asia for several years. Femcare packaging, which with its contour reminds you of a bear or other animals, is aimed at the youngest target group, for example. Practical fastening holes can be equally incorporated.

Usually only two to four products are contained in the stand-up pouches. In the case of regular sanitary napkins the OPTIMA FS1 handles counts from four to 30 products, in two rows. This creates packages with 60 sanitary napkins maximum per cycle.

The turnbox turns

A new product cassette, called turnbox, has the task of changing the alignment of the sanitary napkins. These are first pushed out upright from the stacker on their narrow "edge". In the turnbox the vertical alignment is maintained, however changed to upright position. The turnbox "tips" the stack forward by 90 degrees. Together with the pivoting stack the pads can now be turned in any direction in the OPTIMA FS1 two-dimensionally, compressed and packed in this position.

Format changeovers on the OPTIMA FS1 can be carried out quickly and easily. This can be illustrated best with an example: The change between horizontal and vertical products is only made in the OPTIMA FS1 through format parts, while on a high performance machine of the OPTIMA OS series a module cart would have to "roll up" with the right module. Then it would call for screws. We must not overlook any screws and it requires technical understanding of the correct design, which would not be ensured with semi-skilled staff.

In the OPTIMA FS1 the functional components for all product alignments are already integrated as standard. "Many hand movements are omitted here," says Rothbauer. In the high performance sector, an operator of OPTIMA OS machines has time advantages as soon as so-called three-dimensional format changeovers are required. "Here, the OS machines have a clear advantage with various servo-motor supported settings, which are activated on the HMI or are provided with central adjustments," adds Rothbauer. "Full automations in the format changeover would essentially also be conceivable in the OPTIMA FS1, but then we find ourselves contrary to the entry-level machine in terms of price," he explains the background and why this is not suitable for this model.

In the pivoting cassette the products are turned as required. Together with the new turnbox (see image on page 23) all product alignments can be achieved – without module changeover.

Finally: At this station the still open packs will be fixed in order to be able to weld the bag films with high precision.

Both machine series are similar in terms of their high machine availability. Optima Nonwovens is known for offering the maximum here. This is already apparent after the first internal preliminary factory acceptance tests, also for the OPTIMA FS1.

Service: Remote or locally on site

Let's come back to the service, which was only briefly mentioned at the start in spite of its significance. Optima Nonwovens sets the bar very high here again. With five subsidiaries in Asian countries and excellently trained service staff, operators of Optima equipment are on the safe side. Service teams comprise local and international experts. The fact that the world's largest Optima service manpower is located in Shanghai also reflects the significance of the Asian market.

Native speakers from Asia, who are proficient in both English and German, work at the company headquarters in Schwäbisch Hall. If a technical issue arises that cannot be clarified locally in Asia, this ensures there are no language barriers in the communication with the German experts. Remote access is another important element that secures long-term operation of the equipment.
With the OPTIMA FS1 a new machine is available for packaging sanitary napkins, which catches attention with technical details and exciting "made in Germany" innovations. The well-designed, successful overall package is already impressing in Asia, however it will also gain recognition internationally.

INTERVIEW WITH

Benny Antonio
Project manager at Fiberline Industries Inc.

Premiere for Fiberline Industries (Manila, Philippines): the first Optima machine

Mr. Antonio, recently Fiberline awarded a contract to Optima for the first time. How did this come about?

Currently we still have packaging machines made in China, which achieve a decent performance with regard to their actual capacity. But with the recent purchase of a production line with much higher performance, this kind of machine just can't handle the job. This led me to rethink and weigh up the options. It's about time to look for a real solution, and I believe that Optima will be that solution.

Which features were particularly important for you in the decision?

I believe every company that buys a specific machine expects that it runs flawlessly and at 100 percent efficiency. But that is just wishful thinking. Realistically, I am happy with an efficiency of 85 percent at constant delivery output.

A machine that is easy to operate, easy to maintain and easy to understand is a must. Minimal staff intervention and supervision is also a must have for me.

Your new machine is currently being built in the Optima factory in Germany. Can you share a few impressions of the current project? Are you satisfied so far?

Due to the COVID-19 pandemic I have not yet had the opportunity to visit Optima and see some of their machines myself. So far, the overall impression is good and I am regularly informed about the construction progress, which I appreciate. Satisfied? As this is the first machine and I have not yet received this, I am yet to see and check it myself. I have high expectations. However, the horizon is vast and wide, and I could already see several projects lining up. That's how confident I am with Optima.

The newly developed format parts are constructed within a few hours and immediately available in a 3D printing process for the customer. They can be produced worldwide.

Since there are limits set on the 3D printer in terms of dimensions, the format parts consist of a base part, which is in stock, and a flexible component, which can be printed from a 3D printer within a few hours.

NEW FORMAT PARTS WITHIN HOURS

One of the world's largest cosmetics groups is looking for quick and agile solutions. New cosmetics are expected to be launched within days. "Due to a market that is strongly driven by influencers, we need quick response times," according to the headquarters in France. The average delivery time for format parts is, however, actually eight to twelve weeks. Optima is supposed to manage that in just a few days. We are taking on the challenge.

"In a joint pilot project with the customer, we were looking for a suitable new format," reports Michael Weber, Director Service at Optima Consumer. In an innovative workshop, a fresh look has been given to the topic of formats. Conventional parts were split into a "carrier range" and a "flexible format range". The customer could already order the carrier parts for its systems in large quantities. If it leads to new format requirements later, only the flexible format part will be adapted to the new container or constructed in CAD. The 3D printer produces the parts within a few hours and then the entire format conversion kit is on its way to the customer.

Use of the latest 3D printing technologies

Optima uses the latest 3D printing technologies from the house Additive Innovation Center, an innovation center where all the standard 3D printing technologies are used and further perfected. It features a 3D printing lab and a training and design area. The customer is even able to print the parts on their own printers on site.

In a virtual meeting with the customer's global management team, Optima presented the idea of a puzzle system with 3D printed format parts and fixed carrier parts. "The customer was impressed and gave the go-ahead for immediate project implementation," says Weber. The order for the first format set came in right away after the presentation of the concept. A field test should now bring insight in terms of wear, resistance and accuracy under production conditions.

Tried and tested technology, new approach

The final result is a format set from base parts held in stock, into which the 3D printed puzzle segments (blue), which are object-dependent, are clipped and then bonded together. Another ultra-modern technology is the chemical bonding of the 3D printed parts. This technology is also being developed at Optima. "We are excited to see which application areas will emerge in the future," adds Weber. The success story of 3D printing in mechanical engineering has just begun.

RETROFIT AS AN OPPORTUNITY

Optima packaging lines can run for decades. However, if electrical components have reached a certain age, a retrofit is often necessary.

The modernization of the system runs as planned so that temporary production downtimes usually can be buffered.

If systems are re-equipped with the latest technology, service staff will be able to quickly analyze and fix any sources of error remotely in future.

When systems have seen better days, action is needed. Often numerous parts in the control cabinet are outdated. Once central automation components such as the control system have been discontinued, the clock starts ticking. A timely retrofit avoids a costly total breakdown. And it opens up the opportunity to benefit from the possibilities of digitalization.

Older systems that are intended to run for a few more years should undergo a retrofit. Everything that can be planned ahead is less expensive than any ad-hoc action. This applies particularly if some of the electrical components are outdated and difficult to replace, the next unplanned machine breakdown could thus result in high costs.

Act early instead of reacting

Action is therefore required. Team leader Andreas Noller is responsible for the organization in the Optima Consumer electrical technology service department. He and his team handle the retrofits of customers' systems. It is not only a matter of swapping discontinued components one for one for modern ones. Noller explains: "If the machine has been running for several years, then the overall electrical technology is outdated."

The operator's plans determine what needs to be done. In addition to an inventory, the retrofit specialists in Noller's team also carry out a needs assessment and submit a recommendation. If the customer only wants to operate the machine for a short time, they just need to hold the replacement parts of the discontinued components in stock. If the customer wants to continue production for a few more years, the recommendation veers towards a comprehensive retrofit of the control system. In this case, completely new control cabinets will be built and tested at Optima. The retrofit will be carried out on the machine in the shortest time possible.

Customers are really surprised sometimes by what their "old" machine can achieve with the latest technology. They are delighted by the increased output possible with a retrofit. Often the new control cabinets are also significantly smaller due to their higher performance density, which makes space available in production. It also means the peripheral equipment, for example the product feed, can be integrated in the control concept and operated in future via a central HMI.

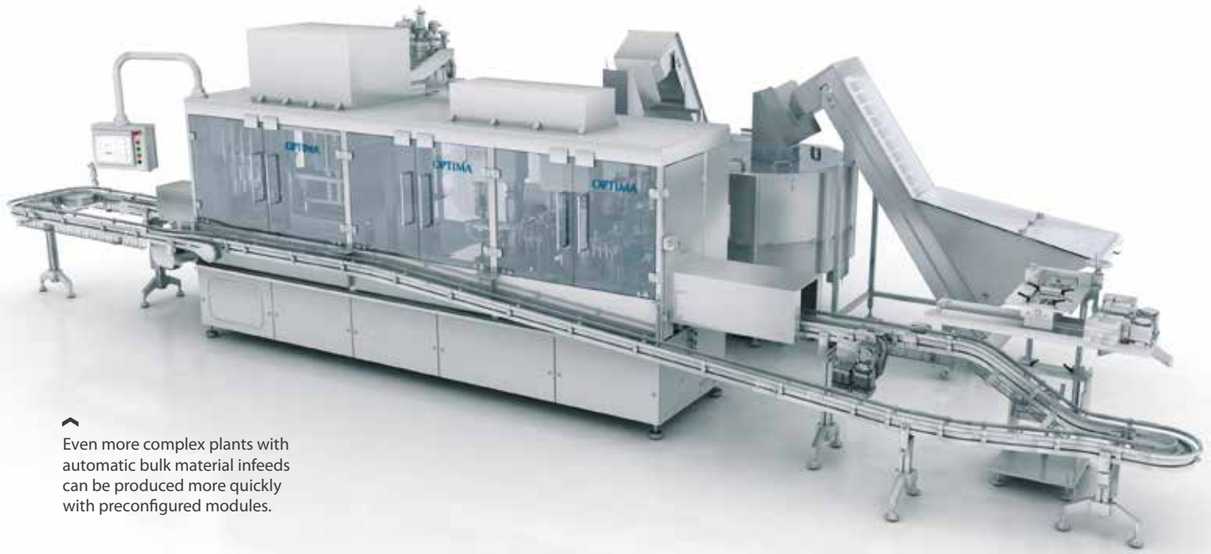
Future-proof in the age of digitalization

The potential for digitalization associated with a modern control system can be reason enough for a retrofit. It supports remote control, so allows online access by the service staff. In many cases, faults can be rectified remotely after the upgrade.

Industry 4.0 also offers new possibilities in data analysis and diagnosis as a basis for process optimization and predictive maintenance. Additionally, the latest generation of PLCs allow the machines to be connected to the MES and ERP systems. This means the retrofit ensures parts availability of the machine and thus overall equipment effectiveness for years to come. State-of-the-art automation leads to Industry 4.0 and thus ensures future-proofing. As part of the "Electric Care" offensive, Optima will present the extensive opportunities resulting from the retrofit to its customers in the months ahead.

IMPORTANT FOR YOU

- If electronic components become outdated, it is worthwhile considering a retrofit of the control system.
- Once the key components have been discontinued, there is a need for action.
- As part of a retrofit, Optima offers a thorough analysis of the overall automation structure.
- This could result in a recommendation for modernization depending on the customer's objectives, for example the planned continued machine run time.
- If a machine is to continue running for a long time yet, the transition to Industry 4.0 is achieved by using the latest generation of controls.
- The "Electric Care" offensive demonstrates the multiple possibilities of a professional retrofit.



Even more complex plants with automatic bulk material infeeds can be produced more quickly with preconfigured modules.

GET INTO PRODUCTION EVEN FASTER

Some filling and packaging challenges need to be dealt with even faster than others. To do this, short delivery times are needed, and this can only be achieved with standardized machine solutions. That is why the tried-and-tested OPTIMA Moduline filling and closing machine is now also available with preconfigured machine modules. The result is a whole host of advantages for machine users.

"The tried and tested Moduline machine platform for liquid, pastel and powder-based cosmetics is now also available with streamlined configuration options," explains Alfred Weihbrecht, Director Sales Cosmetics & Chemicals at Optima Consumer. "The higher levels of standardization means that the investment costs are manageable with tried-and-tested Optima quality and high output rates of 60 to 120 products per minute," says Weihbrecht. It is possible to expand the systems at any time due to standardized interfaces. Other benefits include short delivery times, rapid installation and commissioning on site, and an overall rapid time-to-market.

Standardized yet individual

Optima customers will continue to receive the "full range" of options – for example, in terms of the versions of the filling modules with CIP/SIP systems. "However, the systems are now even more closely suited to the relevant application, and that reduces the purchase price," explains Weihbrecht. The basic machine platform can be equipped with the extras required using various options, so it can still be tailored to meet individual needs.

"Initial projects have gone very well," Weihbrecht reports. The machines are becoming increasingly compact, with a reduced footprint. This contributes to an advantageous total cost of ownership and saves resources. "Its optimal price-performance ratio makes a preconfigured OPTIMA Moduline particularly suitable for medium-sized companies and contract manufacturers," says Weihbrecht.

Manual insertion of vials into pucks.

The closures are screwed.

Rapid module availability

"The predefined options for our systems enable us to create the right conditions for shorter delivery times and cost efficiency," adds Heiko Kuehne, Managing Director at Optima Consumer. This means that modules can be kept in stock and so are available more quickly. "This is a double win for our customers," says Kuehne. They get the usual high quality, but at a more favorable price.

IMPORTANT FOR YOU

- The OPTIMA Moduline filling and closing machine is now also available with preconfigured machine modules.
- Reduced module delivery time and shorter time-to-market
- Optimal price-performance ratio
- Optimized total cost of ownership
- Particularly suited to medium-sized companies and contract manufacturers
- Initial projects have been successful.

In many countries, regulations requiring the wearing of certified FFP masks were implemented over the course of the pandemic. Optima provided assistance with 56 production systems. Systems for filling disinfectants were also built at short notice to meet increased demand.

MASKS AS A MIRACLE OF PARTNERSHIP

Speed is not witchcraft – or at least, that's what they say. But when 56 plants have to be built within a year and eight of the Optima Group companies are involved, you may sometimes wish you had a magic wand. This feat was achieved in the middle of the COVID-19 pandemic – and since August 2020, it has helped to provide many people with vital FFP masks to protect them from Coronavirus.

In spring 2020, colorful community-made masks dominated the urban landscape. The most beautiful ones were hand-sewn with flowers, stars and stripes, but the only real protection against droplets and aerosols, and consequently against viruses such as SARS-CoV-2, could only be provided by professional face masks that were able to meet the FFP2 or N95 standards as a minimum. Soon after the COVID-19 pandemic broke our, it became clear that there was a severe shortage of masks. Even before numerous national governments made it compulsory for hospital, medical and nursing staff to wear masks, and soon after that for the general public as well, a large number of potential manufacturers reacted.

Producing FFP masks for four countries

For example, a client with international operations who prefers to remain anonymous approached Optima as early as March 2020, with the request: Is it possible to build, deliver and commission 20 production lines to manufacture and package FFP masks within a five-month period? This was being planned for a new factory in North America. Only 15 days passed between the request and the order being placed with Optima. When shortly afterwards, the pandemic situation deteriorated worldwide, the client increased their order. 56 systems were to be built within twelve months. A number of these were also earmarked for three production sites in Europe.

So 56 systems, and ready as quickly as possible. This alone was a challenge for Optima, and not just in terms of the scope of the major project, because the manufactured face masks also had to comply with different FFP protection classes and could be fitted either with a nose clip, nose foam and/or an exhalation valve. Each of the production lines had to be made up of several units going from several mask manufacturing lines to one packaging line consisting of a flow bagger and a cartoner. Once the actual mask are manufactured and, where applicable, the valve assembled for the lower part, diaphragm and valve cap, the masks are then quality-tested. They are then transferred to the packaging unit consisting of a flow bagger and a cartoner. There they are initially packed individually into bags, stacked and finally packed into folding boxes, enabling various packaging batch sizes to be produced.

Exceptional high-volume production

From the get-go one thing was clear – this major order could only be managed with the complete involvement of a great many employees from several Optima units. Simply procuring the parts needed in a short time window was a challenge. A new approach was also taken in assembly, where – unusually for special machine builders such as Optima – a kind of mass production was put in place by Optima Life Science.

Stefan Bauer, Business Development Manager at Optima Consumer, remembers: "At peak times, 80 people were working on the individual systems or on certain modules, remotely at different locations. The individual systems were then consolidated at our client's different locations within around a two-week period. This way, we were able to run numerous processes alongside each other." This meant that it was possible to make significant savings in terms of production time, and to adhere to the planned delivery times. The first system was delivered in August 2020. On average, there was a 20-week delivery time for the individual mask production lines including valve assembly, flow bagger and cartoner.

Mask production: 56 new Optima plants are producing FFP masks with or without valves at four different sites.

IMPORTANT FOR YOU

- 56 systems for manufacturing and packaging FFP2 masks were built at Optima within a period of around twelve months.
- To this end, Optima Life Science set up high volume production.
- Eight companies from the Optima Group were involved in the project.
- The production of modules and individual systems in parallel at various Optima locations and the close cooperation between the business areas and the Materials Management department made it possible to complete the systems by the agreed deadline.
- The average delivery time for the mask manufacturing equipment with valve assembly, flow bagger and cartoner was 20 weeks.

INSIGHTS

The beginning of the COVID-19 pandemic was marked by the wide range of different masks.

Client skills plus Optima expertise

One reason for being able to manufacture the systems in record time was that the client was able to contribute their mask-making expertise. Optima has expertise in web converting systems and in handling nonwovens and similar materials that are also processed for use in masks. Machines for manufacturing wound dressings and diapers have been part of the portfolio for a long time. The client contributed their specialist technical expertise in mask production. Optima built the machines to their specifications as part of a close collaboration.

Bauer says that the cooperation was based on partnership and open, direct communication in all project phases and at all operational levels which were crucial to the extremely short duration of the project, lasting around twelve months. "The door was always open for all of the client's representatives," he says. Optima also responded to the changes required in the supplier countries over the course of the project by adapting their service support in an agile way. This was not always easy to do, especially given the COVID-19 related travel restrictions. In the meantime, a thank-you e-mail from the client's Project Manager in charge speaks volumes, thanking everyone for the "very positive cooperation". He particularly emphasized the team' s highly committed approach with which they met every challenge. He found the cooperation to be very open and trusting.

"Tireless dedication, exceptional motivation"

There was also excellent cooperation between the eight participating companies from the Optima Group: Optima Life Science, Optima Nonwovens, Optima Consumer, Maier Packaging, Optima Automation, Materials Management, Optima Corporation (Green Bay, USA) and Amotek (Bologna, Italy). Stefan Bauer says, "This project was able to be so successful in the first place and implemented in such a short time thanks to the tireless dedication and extraordinary motivation of many co-workers." This close, interdisciplinary cooperation has made Optima particularly effective and strong. "It was also a learning process for us," says Bauer, "one in the course of which we developed a strong bond." Besides the manufacturing units, the Materials Management department in particular performed a masterstroke in procuring and supplying parts. Optima companies worldwide were also called upon to provide active support to their German colleagues during the installation of the systems on-site, thereby helping to ease the challenging travel situation caused by COVID-19.

FFP and N95 compliance with the FAT

The Factory Acceptance Test for the equipment proved the high quality of the work carried out by the Optima teams. The client checked the masks for compliance with the guidelines in force in the destination countries. Optima only received delivery approval if the mask already complied with the subsequent conditions of sale. After one of the major milestones in the mammoth project, the delivery of the first masks, the client Project Manager confirmed: "I know how much work and dedication you all put into achieving our project targets. It is 100 percent safe to say that we could never have done this as well as we did without you."

"Everyone involved can look back on what has been achieved with a sense of pride. They have made a significant contribution to combating and containing the COVID-19 pandemic."

Hans Bühler
Managing Director/CEO, OPTIMA packaging group GmbH

A JOINT SUCCESS STORY

Hayat, one of the leading FMCG companies based in Turkey, offers products in the hygiene, home care, tissue, and personal health categories that are exported to over 100 countries. Optima and Hayat have worked closely together since 2003, and this partnership recently culminated in delivering the 50th Optima bundler.

› FMCG is the abbreviation for Fast-Moving Consumer Goods. It refers to everyday products that are frequently repurchased by consumers.

Hayat's first international breakthrough was a detergent. "Bingo" is the name of the first FMCG brand, which the company established in 1987. This was followed by a rapid expansion, particularly in the Eastern European and African markets. Ten years later, in 1997, Hayat launched the production of tissue products.

"When we bought our first bundling machine from Optima in 2003, we only had four production machines for diapers in Turkey. Today, we are the world's fifth largest manufacturer of branded diapers and operate production sites in seven countries for this product alone," explains Ibrahim Güler, Vice President Operations at Hayat, outlining the company's rapid development into a global paper hygiene player. The Optima bundlers used by Hayat are now widely used on an international scale. Hayat also covers the femcare and tissue segment in addition to the baby care segment, and has recently added the personal care segment to its portfolio.

From the beginnings

The Optima bundler development history begins in 2000, says Ivair Santos, Sales Director South America at Optima do Brasil. At that time, customers from this region in particular, spoke to Optima about their secondary packaging requirements. Fully automated processes were starting to be considered as particularly important, while at the same time having prime packaging quality, involving considerably fewer packaging materials and reduced labor costs. Based on technical and economical considerations, the decision was made at Optima to build this type of multi-unit bundling machine in Brazil and this still applies today – all Optima bundlers are manufactured to the high-quality standards of the global leaders for paper hygiene products.

Today, Optima bundlers are used as multi-unit packaging machines for products like baby diapers, baby pants and adult incontinence pads, toilet and kitchen rolls, table napkins, facial tissues, sanitary napkins and others. The requirements have changed over time, Ivair Santos reports. As the output of converting machines became higher and primary packaging smaller, i.e. contained fewer individual products, at the same time labor costs became more expensive and ergonomic issues more important. Therefore, many customers have focused on the installation and performance of the bundlers as a decision criterion.

High demands, enormous trust

During the 18 years of working closely together as a partnership, Hayat and Optima have developed a deep understanding of the market needs and consequently specific technologies requirements, which definitely supported to improve the strengths of both companies. First and foremost, Ibrahim Güler emphasizes mutual trust as the foundation of the business relationship. The appreciation goes beyond that. "Optima meets the requirements of our high speed production lines, which are Industry 4.0 compatible, on their part with the latest technologies." Güler continues, "We see Optima as a visionary, agile, target and success-oriented business partner."

This praise is all the greater because Hayat also sets the highest standards on itself. Ibrahim Güler adds, "We learn and improve ourselves quickly. We adapt our precise production to any market in which we are investing. With a deep understanding for changing markets, Hayat is working hard on developing its position as a leading

Ivair Santos, Sales Director South America at Optima do Brasil

Ibrahim Güler, Vice President Operations at Hayat, has contributed significantly to the company's development into a major global company for fast-moving consumer goods.

‹ Production at Optima do Brasil follows the same principles and quality requirements that apply to the machine construction of Optima Nonwovens in Germany.

IMPORTANT FOR YOU

- The OPTIMA BD12 bundler is ideal for pre-packed paper hygiene products such as diapers, facial tissues etc.
- Since 2003, Optima bundlers have continuously been adapted to current customer requirements and new technologies have been integrated. Quick format changes are particularly important.
- A wide range of formations and pack sizes can be achieved quickly and flexibly.
- All bundlers are produced at Optima do Brasil in accordance with the extremely high quality standards of the German world market leader in paper hygiene packaging, Optima Nonwovens.
- Customer satisfaction: In March 2021, Hayat, one of the world's leading paper hygiene manufacturers, installed the 50th Optima bundler. Three more were already produced and delivered.

On the way to the customer: The 50th Optima bundler for Hayat shortly before its delivery.

50 2003 - 2021 BUNDLER DELIVERED

manufacturer on the global markets." Today, Hayat employs over 9,000 people worldwide in the FMCG area. Sustainability aspects are another topic in which Hayat is a front runner. For example, water consumption in tissue production has been reduced so much so that Hayat is now first in this ranking in Turkey and third in Europe.

Feedback leads to innovations

Back to the bundlers: During ongoing production, prepacked paper hygiene products are automatically transported to the Optima bundler inline, in single or multilane processes. Based on it, this machine is also equipped with some specific modules used for handling pre-defined single and multi-layered formations, from laying or standing configurations. The pre-grouped primary packages are pushed into the PE bag that is formed in line and due to the double sealing concept the final bag is properly closed and cut off without generating any material waste.

Between the first and the current bundler model built by Optima to Hayat, there are numerous innovation steps that can be attributed to the close partnership with Hayat. Quick format changeover and specific modules driven by servo technology have been part of the main prerequisites for this. For example, in the actuation of the welding station, which is easily adjusted by turning a hand wheel and selecting new parameters settings on the existing operator panel. Along with this upgrade and others, Optima has succeeded in significantly reducing the format changeover times to approx. 15 to 30 minutes.

The format changeover can also be performed by only one individual and without the need of tools. The risk of injuries when working in the machine has been significantly reduced along the years by acting on the feedbacks received by Hayat´s experts. Significant improvements have been made in this machine type. Robots have been installed. This option allows even more flexible production constellations to be generated extremely efficiently in the area of grouping and sorting. In order to continue to maximize the high technical machine availability of 98 percent, Optima provides a special buffer system as an option for the film material, which saves around 20 meters of film. This means a roll change can be carried out at full machine output.

Molfix is the most popular brand of diapers in several countries. It is manufactured at seven international sites.

Global use: Standardizations and virtual FAT

For customers like Hayat, who operate this type of machine at various sites, machine platform standardizations are a huge advantage. All consumable and spare parts, as well as central components which Optima installs on the bundler, are quickly available everywhere. These electronic, pneumatic, and safety components reflect continuity as a platform. The expertise available to the customer is thus growing continuously and the stock-keeping is also simplified. Features also include standardized modular software and user-friendly documentation.

Hayat and Optima both benefit from this continuity, the standardizations and, last but not least, the trust established. This now allows the bundler to be accepted by the customer via a virtual Factory Acceptance Test. Meanwhile, it is even possible for the subsequent installation and commissioning of a new machine to be carried out completely by Hayat's technical staff. If there are any questions, Optima is available via remote service access.

With the worldwide presence that Optima has developed over the past years and decades, systems can be serviced at almost any location when necessary by their own service experts, and repairs can be carried out without long travel times.

Jubilee: 50th bundler for Hayat

In March 2021, the 50th Optima bundler was delivered to Hayat, as part of a total order of seven machines. From this series, another three bundlers were already shipped from Optima do Brasil to Hayat locations.

Finally, Ibrahim Güler takes another look at the beginnings of the collaboration to date: "As we entered the market for baby diapers and sanitary towels, we were looking for a world-class partner for packaging, who would support us with the highest of quality. Of all the potential partners, Optima stood out with its high standards and clever solutions. Optima has proven itself in bundling for diaper packaging and thus we have forged a close cooperation since 2003, which will continue unchanged."

COFFEE: MARKETS AND DATA

-4,4%

Global green coffee exports not yet back to pre-pandemic levels
Change between July 2019 and July 2021
(60 kg bags, all coffee varieties from all exporting countries)

+51%

Sharp rise in green coffee prices
Change between October 2020 and August 2021
(According to the "Composite Indicators" of the ICO, International Coffee Organization, London)

89%

of global green coffee is produced by 10 countries.
169.9 million in 60 kg bags
(forecast for the ICO coffee year 2020/2021)

Brazil: 63 million
37% share of the world market

Vietnam: 29 million
17% share of the world market

Indonesia: 12 million
7% share of the world market

Colombia: 15 million
9% share of the world market

Also Ethiopia, Honduras, Uganda, India, Mexico and Peru
(each under the 10 million mark)

Sources: "Coffee Market Report, August 2021", International Coffee Organization, London | "Coffee in Figures No.10, 2021", Tchibo Brand eins, Hamburg | Euromonitor International, London

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