

Asia's Only Regional Bilingual Magazine for the Nonwovens Industry
NonwovensAsia

亚洲非织造材料工业 ノンウオーブンス・アジア 부직포 아시아



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Applications: Production of Flushable and Degradable Spunlaced Nonwovens

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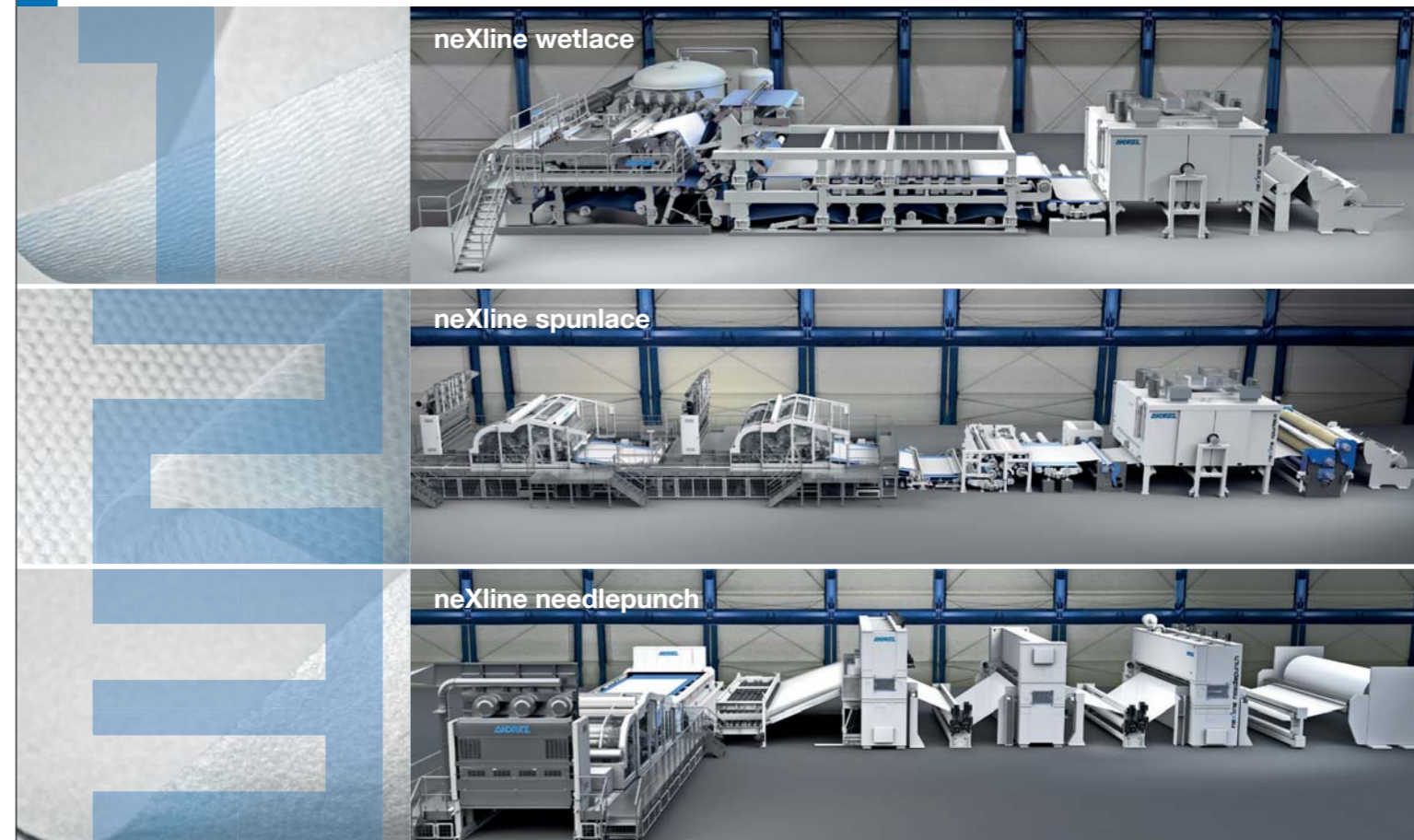
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CONTENTS

Industry News	ANDRITZ to supply a complete spunlace line equipped with TT cards to Hangzhou Pengtu; JNC starts up thermo-plastic Bico line in Thailand; Autoneum to open seventh Chinese plant etc.	3
行业新闻	安德里茨供给杭州鹏图一条配置了TT梳理机的完整水刺生产线; JNC公司在泰国搭建新的热塑双组份纤维生产线; Autoneum将在中国建造第七个工厂等	29
Market News	Bemax to sell diapers via Amazon; Lantor gains new investor; Fibertex personal care upgrading Denmark line etc.	5
市场动态	Bemax将通过亚马逊销售纸尿裤; Lantor获得了新的投资者; Fibertex个人护理将升级丹麦生产线等	31
Market Trends	Sustainability set to grow in nonwovens; Lenzing announces major U.S. Tencel investment; P&G sets environmental goals; Personal care wipes: A growing market etc.	12
市场趋势	非织造布的日益增长的可持续性; 兰精宣布其重要的美国天丝投资; 宝洁设定环境目标; 个人护理擦巾: 一个不断增长的市场等	36
Area Report	2016 Report about the Development of Nonwoven industry in China mainland	18
地区报告	2016年中国非织造材料产量统计报告	41
Technology News	The Development of new nonwoven from TTRI	20
技术信息	新纤维不织布研究开发	43
Technical Trends	Nonwovens in food pads	24
技术趋势	非织造材料在食品包装中的应用	47
Product News	Daio launches cotton pad; La Fresh introduces new Makeup Remover Wipes etc.	27
产品集锦	Daio 推出棉垫; La Fresh 公司推出卸妆湿巾新品等	49



Reader Enquiry Form/Advertisers' List 51

读者查询表及广告商索引

Subscription Form 52

订阅表

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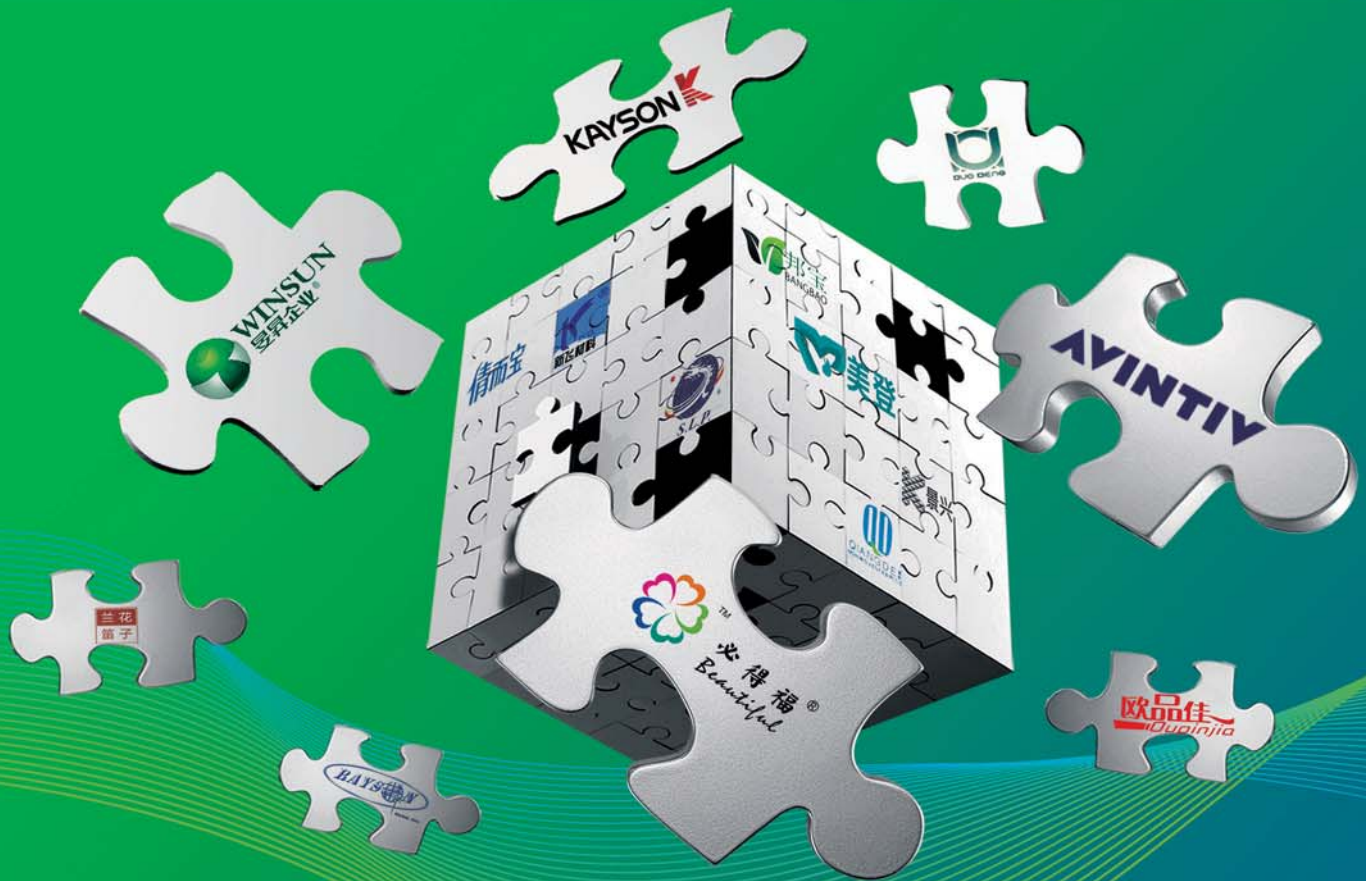
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Nanhai Medical and Hygiene Products Industry Association, gathering enterprises covering whole industrial chain to form alliance, provides first-class service to support industrial upgrading, pushes synergic innovation and promotes sustainable development.

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佛山市南海区医卫用产品行业协会

Nanhai Medical and Hygiene Products Industry Association

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Business News

ANDRITZ to supply a complete spunlace line equipped with TT cards to Hangzhou Pengtu

Graz, January 10, 2017. ANDRITZ Nonwoven, part of international technology Group ANDRITZ, has received an order from Hangzhou Pengtu, China, to supply a new spunlace line. Start-up of the line, which has a working width of 3.6m, is scheduled for the third quarter of 2017.

The scope of supply includes the delivery of an ANDRITZ neXline spunlace eXcelle line with two TT cards, which is now the new standard in China for high-capacity production of wipes. The new nonwovens line will have an annual capacity of 20,000 tons for production of spunlace fabrics from 30 to 80 gsm. A Jetlace Essentiel hydroentanglement unit and a neXdry through-air dryer are also part of the order.

Hangzhou Pengtu started its operations in 1998 and has developed very quickly in the field of artificial leather coatings. The company is now targeting entry to the nonwovens industry with the spunlace process, with the goal of becoming one of the leading Chinese spunlace producers. It plans to invest in six spunlace lines within the next three years, with ANDRITZ being a preferred partner to support the company's growth.



▲ ANDRITZ neXline spunlace line with TT cards

Oji upgrades diaper plant

Capacity added for pants, side fastener diapers in Nagoya

Oji Holdings is expanding its Nagoya, Japan diaper manufacturing site. The initial upgrade, which was completed in November 2016, increased pants style diaper production by 40%, bringing the total production to 660 million pieces per year.

The second part of the upgrade will focus on side fastener diaper production. The addition

of a new line, scheduled to be complete in September 2017, will nearly double production from 135 million pieces per year to 265 million pieces.

The expansion for side fastener diapers will target Chinese growth while the pants diaper investment is targeting domestic sales. (Source from: "www.nonwovens-industry.com")

JNC starts up thermo-plastic Bico line in Thailand

Technology developed with partner ES Fibervisions

JNC Corporation has started operation on a new the production line for thermo-plastic bicomponent fibers (ES Fiber) at ES FiberVisions (Thailand) Co., Ltd., its member company located in Rayong, Thailand.

ES Fiber is a unique thermo-plastic bicomponent fiber which can be heated and bonded together without using adhesives. The resulting nonwoven fabric made of the ES Fiber is soft and bulky, and is currently widely used in hygiene products such as baby diapers and feminine care products.

The new line is capable of making about 14,500 tons of the material per year. The size of the investment was reported at \$12 million.

In order to expand the business into the growing Asian market, JNC formed the manufacturing company ES FiberVisions (Suzhou) Co., Ltd. in 2011 as a joint venture with ES FiberVisions LP, with whom it has a global partnership for sales. Further, after FiberVisions became a subsidiary of Indorama Ventures Public Company Ltd., JNC and IVL have agreed to expand its partnership in Asia and has been constructing the newly completed bicomponent production line in ES FiberVisions (Thailand) Co., Ltd.

JNC will continue to aggressively pursue business expansion by taking advantage of its integrated system of manufacturing fibers and nonwoven fabrics, in order to meet the strong demand from the Asian market. (Source from: "www.nonwovens-industry.com")

Business News

Autoneum to open seventh Chinese plant

Carpet systems and inner dashes will be manufactured at the new facility in the Eastern Chinese city of Yantai

In order to meet the persistently strong demand by international and local vehicle manufacturers for lightweight noise and heat protection components and simultaneously minimize the logistics costs for customers, Autoneum is expanding its production capacities in China with a seventh plant. Starting summer 2017, the market leader in acoustic and thermal management will ensure the just-in-time delivery to vehicle manufacturers at their nearby production facilities out of the 6600 square meter plant in the Eastern Chinese city of Yantai in the Province of Shandong. Following the start of serial production, carpet systems and inner dashes will be manufactured for around 250,000 vehicles per year, with an increase in production easily possible. As part of the implementation of sustainable production processes at all Autoneum locations, production waste in the form of polyester or mixed fiber fleece is to be recycled and re-used in the manufacture of components at the new facility in Yantai.



"With over 26 million light vehicles produced this year, China is the world's largest automobile market. The investment in a further plant in this growth market will enable our customers to receive innovative lightweight components just-in-time and with significantly lower logistics costs. At the same time, the expansion of our Chinese production capacities is in line with our strategy and will contribute to the targeted market share increase in China," says Martin Hirzel, CEO of Autoneum.

With an expected production increase to over 29 million light vehicles in the year 2020, China is one of the key growth markets for the automobile industry. In addition to the three fully owned plants in Chongqing (since 2006), Taicang (2010) and Shenyang (2011), Autoneum jointly operates Chinese production locations with Japanese automotive supplier Nittoku in Guangzhou (2003), Tianjin (2004) and Wuhan (2013). (Source from: "www.nonwovens-industry.com")

Investor claims stake in Indian Fem Hy Brand

Paree claims to offer first chemical free product in country

Vini Cosmetics promoter Darshan Patel has reportedly acquired a majority stake in Noida, India-based Sooth Healthcare, the maker of the Paree brand of sanitary napkins. The size of the transaction was not disclosed. Sixth Sense Ventures, a consumer products investment firm, still holds a 23% stake in the publicly traded company.

Paree, a value-oriented feminine hygiene brand, is currently available in more than 3000 Indian pharmacies as well as through online retailers. It claims to be the country's first chemical-free sanitary napkin manufacturer.

(Source from: "www.nonwovens-industry.com")

New Chinese nonwovens company to add spunlace lines

Zhejiang Wang Jin buys two spunlace lines, has plans to order more

Truetzschler will supply Chinese nonwovens producer Zhejiang Wang Jin with two new spunlace lines. One of the lines is a high speed carding line featuring Truetzschler's well-known random roller technology. This line will fulfill the demand for outstanding web quality at high speeds. The second investment is a cross lapper line designed to produce high quality products with low MD/CD ratios. Once running it will be the most advanced crosslapper line worldwide.

Zhejiang Wang Jin Nonwoven Company Ltd. was founded in December 2015 by a strong technical team under well experienced management. The company has a strong financial background and is ready to compete in the spunlace nonwovens products market. The company plans to ultimately invest RMB 660 million, or nearly \$100 million, in eight advanced technology spunlace lines, all from Truetzschler. This will allow Zhejiang Wang Jin to explore opportunities in new markets and fulfill customer demands around the world. The company expects to ultimately make 75,000 tons of material with sales of about RMB 1.85 billion or \$275 million a year.

The initial two lines will begin production sometime in 2017 and will mainly target wet wipes, face masks and other hygiene products.

(Source from: "www.nonwovens-industry.com")

Market News

Bemax to sell diapers via Amazon

Company will list two private label brands on e-commerce site this spring

Bemax Inc. is entering the U.S. market with two private label brands on www.amazon.com, starting in April, the diaper manufacturer has announced.

Launching on Amazon is part of the first phase for Bemax disposable diapers to penetrate the U.S. market, according to CEO Taiwo Aimasiko. In further phases in 2017 the company plans to launch its private label brands to traditional U.S. retail outlets.

In September 2015, Bemax announced it would launch an exclusive private-label of disposable diapers and wipes, called Mother's Hugs, to be sold and distributed through existing Bemax distribution channels of wholesalers and retailers in Europe and emerging African markets as well as to buyers online through Bemax ecommerce website. At the time, executives estimated annual sales to reach \$5.5 million. (Source from: "www.nonwovens-industry.com")

DryLock buys Presto absorbent products

Move establishes U.S. headquarters in Wisconsin

National Presto Industries Inc. has sold its absorbent products division to Drylock Technologies for \$71 million. Based in Belgium, Drylock will continue to operate Presto's Eau Claire, WI facility, making the site its U.S. headquarters. It has entered a multi-year lease for the plant with National Presto and will offer employment to all current workers.

"We are very proud of the strides our absorbent product business has made in the last several years, but recognized that to move to the next level for full success, we needed to combine the operation with that of a major player in the industry," says Maryjo Cohen, president of National Presto.

Founded in 2012, Drylock makes private label diapers, feminine hygiene and adult incontinence products in Europe. Its main technology is centered around a no- or low-fluff absorbent core, which leads to extremely

thin absorbent products.

"This acquisition brings us significant synergies such as presence in the U.S., product portfolio expansion, access to a very attractive customer and manufacturing base as well as a highly professional management team," says Drylock CEO Bart Van Malderen. "The employees of Presto Absorbent Products Incorporated will be integrated in the Drylock structure, ensuring continuity of the existing business. We are convinced that this strategic acquisition will contribute further to our increasing internal growth and we welcome the customers, employees and suppliers. Like Drylock, Presto is focused on innovation and quality."

National Presto, which also has divisions that make ammunition for the military and small kitchen appliances for consumers, says its absorbent products unit was originally formed to acquire the assets of a struggling baby diaper company in 2001. Today it is a manufacturer of adult incontinence products for institutional and retail distributors.

Van Malderen said the acquisition was in line with Drylocks 2020 growth plan. The company, which has plants in Russia and the Czech Republic, acquired CIP Assorbenti, an Italian feminine hygiene company in late 2015. (Source from: "www.nonwovens-industry.com")

Lantor gains new investor

Cathay Investments acquires nonwovens producer

Nonwovens producer Lantor has been purchased by Cathay Investments. The company develops, manufactures and markets nonwovens for industrial applications at a production facility in Veenendaal, The Netherlands and a subsidiary in Haibach, Germany. Lantor's intermediate goods are used in products ranging from communication and energy cables to fiber enhanced plastics (composites) like wind turbines and yachts, as well as labels for the fashion industry.

Previous owner Active Capital Company (ACC) is selling Lantor after less than two years. During this time, Lantor has grown quickly – both in the Netherlands and abroad.

Market News

Managing Director Daan Koppen says, "We are very happy that Active Capital Company was our partner and shareholder. We are looking forward to further build on the strategy that was set out under them, but now as part of Cathay Investments (Cathay), maintaining a separate identity within Cathay. In Cathay we have a long-term shareholder that knows the industry, is better able to help Lantor execute the chosen strategy and will assist with the development of future plans."

Koppen as well as fellow management team member and part shareholder of Lantor, Martin den Ottolander are also reinvesting in Lantor. Ben Chaing, CEO of Cathay describes the acquisition as "further evidence of Cathay's commitment to develop a fully integrated group in order to provide customers with the best possible service in an increasingly competitive market place."

Croydon, U.K.-based Cathay Investments owns several companies in the chemical and distribution industries including Euroresins, a Europe wide distributor of resin, glass fibre and other products for the composites industry; Amethyst Group, a UK 3rd party logistics and warehousing provider; and Perkins Group Services, a distributor of toys and stationery.

(Source from: "www.nonwovens-industry.com")

fresh, clean diapers for their babies.

"These efforts support No Baby Unhugged, our promise to help babies get the hugs they need to thrive," says Giusy Buonfantino, president of Kimberly-Clark Baby and Child Care North America. "We are inspired by parents' hugs – nurturing baby with care, cradling baby in comfort and surrounding baby in protection. The holidays are the perfect time to think about others and give back, so we're turning that inspiration into diaper donations and providing even more access to our high-quality Huggies diapers to benefit the National Diaper Bank Network."

"Having access to a Huggies quality diaper through this program is the best value the network has had yet," says Joanne Goldblum, chief executive officer of the National Diaper Bank Network (NDBN). "In addition to the 20 million diapers that Huggies donates to NDBN each year, the new diaper purchasing program will provide NDBN-members access to a trusted source of diapers needed to fully serve struggling families in their local communities."

Parents can help, too, by donating Huggies Rewards Points, and Huggies will match every point donated through Dec. 31.

"We want all babies to have the opportunity to grow up healthy and happy," Buonfantino says. "In 2017, we will continue to do our part as a leader in the effort to combat diaper need by driving donations and advocacy, and we look forward to launching our new program that will help more babies in need through the National Diaper Bank Network."

Throughout the year, Huggies responded to President Obama's call with incremental diaper donations and partnerships to expand upon its long-standing commitment and leadership in the fight against diaper need. To date, Huggies and its partners have donated more than 48 million diapers and wipes in 2016 alone through:

- Partnerships with Association of Women's Health, Obstetric and Neonatal Nurses (AWHONN) and nurses across the country



Huggies ramps up efforts to close diaper gap

New program enables diaper banks to purchase bulk quantities of Huggies at competitive prices

Huggies announced that it's giving hugs for the holidays to help babies in need this giving season and beyond. In early 2017, Huggies will become the first global diaper brand to offer a program that will enable diaper banks to purchase bulk quantities of high-quality Huggies diapers at competitive prices. Additionally, now through the end of the year, Huggies is matching all Rewards Point diaper donations made to help babies in need.

This announcement is part of Huggies continued commitment to answering President Obama's March 2016 call for helping the one in three families suffering from diaper need, the inability to provide

Market News

to extend AWHONN's Healthy Mom&Baby Diaper Drive

- Building upon a five-year relationship with Baby2Baby by hosting a diaper donation event and social media activation with Baby2Baby supporter Jennifer Garner to drive advocacy around Diaper Need Awareness Week
- Teaming up with Miami Dolphins, San Francisco 49ers and Detroit Lions along with the nurses of AWHONN to host diaper drives during the football season
- Celebrating the giving season with retailers to drive additional diaper donations based on purchases
- Helping families suffering from the effects of natural disasters

Kimberly-Clark first brought the issue of diaper need to the forefront in 2010, when a groundbreaking Huggies study revealed one in three U.S. moms suffer from the inability to provide fresh, clean diapers for their babies. These parents often have to choose between paying for food or diapers, which can lead to increased stress and strife. Huggies has donated more than 200 million diapers and wipes since 2010 and helped build up a capability of 300+ diaper banks across the country as the founding sponsor of the National Diaper Bank Network.

Additional information about the new diaper purchasing program will be available for diaper banks in early 2017.
(Source from: "www.nonwovens-industry.com")

Fibertex personal care upgrading Denmark line

Investment will yield increased capacity, softer product line

Fibertex Personal Care is upgrading one of its existing lines in Aalborg, Denmark, parent company Schouw & Co. has reported. The upgrade will add additional capacity on the line, which has been taken offline for the duration of upgrade, and allow it to make the same super-soft spunmelt nonwovens currently made at the company's Malaysian facility. The upgrade is expected to be complete by the end of the year, allowing Fibertex Personal Care to supply the material from Europe beginning next year. Until then, the company has reportedly stockpiled nonwovens to compensate for the temporary line closure.

In other investment news, Fibertex Personal Care's printing arm-Innowo Print-is adding a second line at its facility in Germany in response to increased European demand. This subsidiary has also completed work on its first Malaysian line and is currently building up a customer base in the region. Also in Malaysia, Fibertex Personal Care's latest investment, a new line and a new factory in Nilai outside Kuala Lumpur, is scheduled to start operation in the second quarter of 2017.

(Source from: "www.nonwovens-industry.com")

SCA continues wish of a lifetime partnership

Hygiene company working with nonprofit organization to grant lifelong wishes to senior citizens

SCA, maker of Tena incontinence products, announced a continued partnership with Wish of a Lifetime, a nonprofit organization committed to shifting how society views aging by fulfilling the dreams of seniors, and Brookdale Senior Living, the nation's largest operator of senior living communities. Brookdale is a longtime Wish of a Lifetime Partner and SCA customer. Together, SCA, Wish of a Lifetime and Brookdale will grant the lifelong wishes of four senior citizens.

"SCA shares Wish of a Lifetime's commitment to shifting the stigmas associated with aging and enabling seniors to live life fearlessly," says Michael Feenan, vice president for SCA's Incontinence Care business in North America. "Together, we look forward to making a lasting difference in the lives of seniors, so that they experience comfort, independence and dignity – regardless of their age."

SCA, Wish of a Lifetime and Brookdale have worked together in the past to grant the wishes of seniors in communities across the U.S. In 2015, the group fulfilled the dreams of three women who had dedicated their lives to helping others. This year's wish fulfillment program honors four seniors who still seek adventure, despite their age and physical condition.

"Our goal is to make the world a better place to age. We are honored that SCA and Brookdale are joining us in our mission by fulfilling the wishes of these four amazing older adults and sharing their stories to

Market News

inspire others," says Wish of a Lifetime executive director Tom Wagenlander. "Our Wish recipients show us that growing older doesn't mean we have to stop dreaming and living a life of purpose."

The wish fulfillment activities began in November and will continue through early 2017. This Saturday, December 10, 88-year-old James Salvatore of Brookdale in Williamsburg, VA, will finally fulfill his lifelong wish to board a submarine – something he has dreamed about since he was 8-years-old. James enlisted in the Navy at age 18, shortly following WWII. Despite his great desire to serve his country on a submarine, he was assigned to Electronics Technician duty aboard naval ships and never got that chance. With the support of SCA and Brookdale, Wish of a Lifetime will send James to a naval base in Norfolk, Virginia, to tour an active military submarine. (Source from: "www.nonwovens-industry.com")

Ahlstrom completes sale of Osnabrück plant

Divestment allows Ahlstrom to develop its other businesses more efficiently

Ahlstrom has completed the sale of its German subsidiary with operations in Osnabrück to Kämmerer Paper Holding GmbH. The transaction was announced on November 7, 2016.

Ahlstrom produced base papers for wallcovers, poster papers as well as release liners for self-adhesive labels at the Osnabrück plant, which is part of the Filtration & Performance business area. The sale will reduce Ahlstrom's annual net sales by about €80 million and the impact on adjusted operating profit is slightly positive. The transaction will also include Ahlstrom's 50% stake in AK Energie (a joint venture with Kämmerer), which is the site's utility providing power and water treatment services.

The divestment will allow Ahlstrom to develop its other businesses more efficiently and pursue growth in areas aligned to the company's strategy. Kämmerer is a specialty paper company operating two production lines at the same site, producing pre-impregnated decor papers and abrasive paper backings.

The parties have agreed not to disclose the purchase price of the transaction. (Source from: "www.nonwovens-industry.com")

Ontex to acquire Hypermarchas' personal hygiene business

\$300 million purchase expands Ontex's Americas retail division

Belgian diaper maker Ontex Group announced that it has entered into an agreement to acquire the personal hygiene business of Brazilian company Hypermarchas S.A. ("HM personal hygiene") for an enterprise value of R\$1 billion (\$306.3 million)

The acquisition of HM personal hygiene supports the Ontex strategy by extending its market position in the Americas to Brazil, increasing sales from Ontex-owned brands, and accessing a fast growing market for adult incontinence.

Over the past 12 months, HM personal hygiene has generated revenue of approximately R\$1.2 billion (\$367.6 million) in the growing baby care and adult incontinence categories in Brazil, with a portfolio of strong local brands including the baby care brands PomPom, Cremer and Sapeka and the adult incontinence brands BigFral and AdultMax.

HM personal hygiene is the market leader in the adult incontinence category and holds a solid No. 3 position in baby care in Brazil, the fourth largest hygiene market in the world. HM personal hygiene has outperformed the market since 2012.

Ontex CEO Charles Bouaziz comments: "We are very excited to welcome HM personal hygiene into the Ontex community. This business has achieved leading market positions in the baby care and adult incontinence categories, built on attractive brands which respond to consumer needs, and strong sales execution. Following the successful integration of Grupo Mabe in Mexico, adding this business to our Americas Retail Division will give us strong positions in two of the top five personal hygiene markets in the world. This is another major step forward for Ontex, confirming that our development into a leading international

Market News

consumer company is fully on track."
(Source from: "www.nonwovens-industry.com")

Shiseido, Unicharm, Lion forge alliance

Companies team up to battle Kao

Shiseido, Unicharm and Lion are working together to challenge rival Kao, which has logged six straight years of sales and profit growth. Unicharm and Lion have announced they will each take a 20% share in wholly owned Shiseido subsidiary Japan Retail Innovation. This collaboration will allow the three Japanese companies to share shelf space and run joint sales promotions on the retail level.

While competitive in some markets, each of the three companies has a separate distinct specialty—Shiseido in cosmetics; Unicharm in disposable diapers and Lion in detergents and toothpaste. The three were reportedly driven to cooperation by Kao's dominance. The company enjoys strong bargaining power with retailers thanks to a subsidiary that handles activities ranging from marketing and wholesaling to distribution of Kao products. Kao's sales are about double of Shiseido and Unicharm.

(Source from: "www.nonwovens-industry.com")

Meltblown nonwovens report

Often overshadowed by its older brother, spunbond, meltblown nonwovens continue to expand in a number of areas

Meltblown nonwovens are largely known for their role in SMS technology where they are manufactured in tandem with spunbond to be used in hygiene applications. The combination of meltblown and spunbond improved the barrier function of the fabric economically.

While this is certainly a big usage for meltblown, comprising about 60% of its overall output, meltblown is an important technology in its own right, finding its place in a range of applications including filtration, medical, wipes and more.

Meltblown is one of nonwovens' oldest manufacturing processes and, some say, its most turbulent. The process extrudes thermoplastic fiber-forming polymer through a linear die containing several hundred small

orifices. Streams of hot air- exiting from the left and right sides of the die nosepiece - rapidly attenuating the extruded polymer stream to form extremely fine filaments. They are then blown onto a collector screen forming a fine-filtered, self-bonded nonwoven web.

"Of the various fiber equipment markets we are involved with, meltblown is the most volatile with surges in demand linked to global health fears (SARS, H1N1, etc.) or oil spills impacting demand," says Timothy Robson of machinery manufacturer Hills Inc.

However, Robinson reports he is seeing a shift towards smaller fibers and fabrics with more features that can be achieved with unique polymers (chemical resistance), small diameters (overall efficiency and filter "quality factor") and bicomponent construction (charge retention, compatibility or additives). This has helped ease cost concerns in the meltblown market.

"From Hills' perspective we've seen the interest in small fibers starting to catch up with the supply," Robson adds. "Various methods of making very small fibers at commercially viable throughputs have existed for close to a decade but the industry has had difficulty justifying the additional cost," he says.

Stricter indoor air quality regulations as well as the focus on highly efficient filters that do not rely on electrostatic charging are two major drivers of this phenomenon. "Additionally the availability of very small fibers have allowed other unique applications of meltblown, for example by utilizing its very high surface area," Robinson adds.

Hills offers all types of meltblown equipment including conventional diameters, throughput and polymers, but its strongest focus in on bicomponent and submicron (nanomeltblown) webs.

Unique polymers continue to hit the market requiring corrosion resistant metals in the extrusion portion and higher temperature capabilities," Robson adds. "Additionally

Market News

continued R&D in sub-micron or 'nano' fibers is slowly resulting in products being commercialized using the higher capacity methods for producing the same."

Supplier Side

One of the nonwovens industry's oldest suppliers of meltblown nonwovens and the first company to combine it with spunbond nonwovens to form SMS, Kimberly-Clark Professional Partnership Products, offers two forms of meltblown nonwovens. The company's fine-fiber meltblown provides high absorbent capacity and low lint with a cloth-like feel and is available with a variety of surface patterns and surface treatment options, while the dual-texture meltblown provides dual-sided performance with one scrubby side and one smooth side.

Jessica Berger, customer market manager, Kimberly-Clark Professional Partnership Products, calls K-C meltblown an ideal base selection for wet wipes thanks to its metered fluid release, which is superior to cellulosic nonwovens like spunlaced rayon. "It delivers just the right amount of chemical to a surface—not too much and not too little. Its uniform bond structure also makes our meltblown an excellent choice for providing fine particulate barrier and superior absorbent capacity in advanced personal nonwovens, including patient warming blankets, table towels, and surface disinfecting wipes," she says. "Plus it can be thermally laminated and/or treated with liquid surfactants."

K-C uses its meltblown nonwovens internally to fuel its billion-dollar brands but also works with customers to create exceptional products.

"Our customers can count on us to deliver a product with a 99.9% first-time quality rating, thanks to our highly automated manufacturing, advanced control systems, and stringent statistical quality controls," Berger adds. "And our manufacturing capabilities enable us to meet our customer's needs, including regulatory compliance. Our ability to use different and unique fibers and proprietary fabric construction can help our customers achieve their desired product properties."

The Machinist's View

Mohammad Hassan, senior research engineer, Biax-Fiberfilm, credits meltspun technology's growth to its ability to offer a lot to the nonwovens market. Recent technology advances are largely targeting higher throughput, finer fiber size and better web uniformity, allowing nonwovens manufacturers to bridge the gap between conventional single-row meltblowing technology and spunbond technology by offering high-strength microfibers and the capability of spinning high molecular weight resins that have higher viscosities.

Biax-Fiberfilm offers an advanced the multi-row spinneret technology to handle much higher operating pressure and pushed the limit of nozzle density to 266 nozzle/inch. In addition to this, Biax offers spinnerettes with small capillaries down to 0.006 inch to achieve small fibers—all with significant advantages in throughput.

"Such advancement would enable our customers to develop niche products with a new class of materials," Hassan says. "Meltspun technologies are continuously improving and winning new markets from the mature technologies such as wetlaid and carding. In addition to this, we see many technical products that are taking advantage of the meltspun technologies in the medical and electronics field because they are easier to tailor and it is becoming more economical to make."

Other market drivers are primarily better web formation that is more uniform, free of roping and shots, higher production capacity to lower manufacturing costs and smaller fiber size to offer lighter products with higher performance.

All of these advancements are helping meltblown expand its role in a number of markets. For filtration, a market where meltblown has always been valued, increased fiber size control and material selection have created new opportunities.

"We see many products are being developed for high temperature and chemical resistance application beside

Market News

some products for sophisticated medical applications." Meanwhile, in the medical field, meltblown fabrics can offer new products to prevent or reduce healthcare acquired infections (HAIs). Thanks to their excellent barrier properties in elastic laminates for the hygiene market, meltblown technology is replacing film-based laminates with the new elastic resins and the robust multirow meltblowing technology.

Hassan says these are just some of the areas where meltblown will target thanks to new advances in the technology. "Using patented and proprietary technologies, we enable our customers to produce economically high-end nonwovens fabrics," Hassan says. "The primary drivers are the continuous need for improvement of the existing products and the urgency to solve evolving customer needs," he says.

(Source from: "www.nonwovens-industry.com")



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Market Trends

Polypropylene absorbent hygiene market to reach \$17 billion

Drivers include growing hygiene awareness and rising infant and geriatric populations across globe

Research and Markets has added the "Polypropylene (PP) Absorbent Hygiene Market Analysis By Technology, By Application (Baby Diapers, Female Hygiene Products, Adult Incontinence Products) Trends & Dynamics, Competitive Landscape, And Segment Forecasts, 2012 - 2022" report to its offering.

The global polypropylene (PP) absorbent hygiene market is expected to reach \$17.03 billion by 2022, according to this new report. Growing hygiene awareness among consumers regarding the utility of diapers and rising infant population across the globe is expected to remain a key driving factor for global PP absorbent hygiene market over the forecast period. The growing geriatric population base in the U.S., Japan, and Europe has created demand for adult incontinence products.

Replacement of synthetic raw materials with bio-based substitutes are anticipated to create new avenues for industry participants. Bio-based polypropylene polymers help in preventing skin rashes among babies, keeping them dry. However, prolonged exposure to polypropylene absorbent products may cause respiratory tract problems, eye irritation, skin problems and neurological problems. Several R&D initiatives are being taken by the market player to improvise their product portfolio in the polypropylene absorbent hygiene industry.

(Source from: "www.nonwovens-industry.com")

Sustainability set to grow in nonwovens

Sustainable options becoming more important to consumers

Global consumption of sustainable nonwovens in 2017 is 3.7 million tons or 94.8 billion square meters, valued at \$14.1 billion, and is due for rapid growth through to 2022, says a new Smithers Pira report.

According to Smithers Pira's new nonwovens report – The Future of Sustainable Nonwovens to 2022 – sustainability in the

nonwovens industry is becoming a major focus for consumers, retailers and producers. The sustainable nonwovens market is smaller, but its growing faster, especially in the more mature markets of Western Europe and North America.

Phillip Mango, author of the report, comments: "The drive for sustainable products and processes in all markets has been growing for the last two decades. For some markets, it has been the fear of global warming driving change, for others, the uncertainty of future petroleum supply and cost, and for others the overflowing landfills. Whatever the driving force, many in the global community desire more sustainable products.

"The nonwovens industry is no different and, in fact, may be even more driven to develop sustainable products due to its high level of dependency on disposable products, many of which are among the most visible products in the world, such as disposable baby diapers and disposable wipes. Consumers, retailers and governments have all viewed these products with questions, desires and sometimes demands."

The nonwovens market is further analyzed by production process technology—both formation technologies (such as drylaid, spunlaid, airlaid, and wetlaid) and bonding technologies (such as needlepunched, spunlace or hydroentangled, thermal bonded and latex or chemical bonded).

For sustainable nonwovens, drylaid, with spunlace and needlepunch favoured for sustainable nonwovens, leads all processes. In 2012 drylaid accounted for 1.2 million tons of sustainable nonwovens, growing to 2.2 million tons in 2017, with an annual growth rate of 13.0%. By 2022 drylaid will account for 3.2 million tonnes (or more than 61% of all sustainable nonwovens in 2022).

Spunlaid is the second largest process used to process sustainable nonwovens; not because existing products are sustainable, but because this process is currently so large and so important in the nonwovens industry. The cost effectiveness and performance

Market Trends

advantages make this technology very difficult to displace; it is more likely that solutions such as recycling and biopolymer raw materials will be found to preserve its usefulness in sustainable nonwovens.

Airlaid is third in usage for sustainable nonwovens. This low energy, low waste process relies heavily on the most sustainable raw material (wood pulp) and is, on average, the most sustainable process. Unfortunately, not all products can be made with airlaid; lightweight (less than 45 g/m²) hydrophobic products are very difficult and expensive. Additionally, global airlaid capacity is limited and expansion is slow.

(Source from: "www.nonwovens-industry.com")

Mann+Hummel opens South African office

Employees at the filtration specialist's first African office will support automotive aftermarket and industrial customers

In November, Mann+Hummel opened an office in Johannesburg and therefore for the first time has its own business premises on the continent of Africa. The filtration specialist with headquarters in Ludwigsburg, Germany, founded a sales office in August that will conduct its business from the South African metropole of Johannesburg.

Initially six employees will work at the new office. They will primarily support automotive aftermarket customers and industrial customers in the southern part of the African continent. Starting in 2017, Mann+Hummel will also supply customers from a logistics center in Johannesburg.

As a result of this new location, Mann+Hummel is now represented on all continents and is therefore able to further pursue its strategy of being close to customers. Josef Parzhuber, president & general manager Automotive Aftermarket at the Mann+Hummel Group, says: "South Africa is the largest automotive market on the continent of Africa and is characterized by good market conditions with regard to its political and economic stability. This step allows us to strengthen our position as a global company. We are close to our customers in terms of location and the solutions we offer."

Mann+Hummel is increasingly focused on the African continent. The filtration specialist is not ruling out additional future actions. Parzhuber explains: "We are currently examining the possibilities for further commitments in other African countries. The markets in Africa have enormous potential and offer Mann+Hummel opportunities for growth."

(Source from: "www.nonwovens-industry.com")

Lenzing announces major U.S. Tencel investment

90,000 ton plant joins other expansion projects in Austria and the U.K

The Lenzing Group has a plan to increase share of its specialty fibers business to represent 50% of its overall revenue by 2020. This goal will be achieved through the previously announced expansion plans at existing Lenzing sites in Heiligenkreuz in Austria and Grimsby in the U.K., as well as a recently approved Tencel fiber plant in the U.S. The company's supervisory board has approved the construction of a state-of-the-art plant with a production capacity of 90,000 tons per year at its site in Mobile, AL. The new facility will be the largest Tencel fiber plant in the world, setting a new milestone in the history of lyocell fibers. The cost of this investment is reported at \$293 million. It will use the latest technological standards and is scheduled to start in the first quarter of 2019.

Lenzing's worldwide production capacity of Tencel fibers is currently 222,000 tons per year. The new plant in Mobile plus the already announced debottlenecking projects at the other Tencel sites will increase the total fiber capacity by more than 50% by 2019. The decision to build this plant in the U.S. was supported by the good infrastructure at the Mobile site as well as attractive energy costs.

"This investment represents another major milestone in the implementation of our corporate strategy sCore TEN. It will bring us a big step further to reach our target of 50% revenue from specialty fibers by 2020," explains Lenzing CEO Stefan Doboczky. "This expansion also underscores our commitment to all our Tencel fiber customers, who continue to make their products even more sustainable using Tencel fiber—the world's most sustainable botanic fiber."

Market Trends

The better implement Lenzing's expansion program, which is essential for driving the group's organic growth agenda, the company has created a new management board role, pooling together the key technical, operational and engineering responsibilities. This led to the appointment of Heiko Arnold as chief technology officer. In addition to a strong scientific and technical education, Arnold has gained many years of experience with BASF in the realization of major investment projects and continuous operational improvements as well as extensive know-how in research and development. He will be responsible for all technical departments in the Lenzing Group.

(Source from: "www.nonwovens-industry.com")

P&G sets environmental goals

Plans to send zero manufacturing waste to landfill from all production sites by 2020

P&G announced additional investments in recycling and beneficial reuse that will eliminate all manufacturing waste from its global network of more than 100 production sites by 2020.

Since P&G began qualifying sites as zero manufacturing waste to landfill, 56% of its global production sites have achieved this milestone. Plans are now in place to complete the remaining facilities over the next four years. This means eliminating or beneficially re-using about 650,000 metric tons of waste, equivalent to the weight of nearly 350,000 mid-sized cars that would typically go to landfills.

"We are accelerating progress toward our long term vision and pushing ourselves to do more – with less waste," says Shailesh Jejurikar, executive sponsor for sustainability and president of Global Fabric Care. "Since 2010, we've been working toward a vision of sending zero manufacturing and consumer waste to landfills. This announcement marks another step on that journey."

P&G will achieve its zero waste goals by ensuring all incoming materials are either:

- converted into finished product,
- recycled internally or externally or
- re-used in alternative ways through partnerships.

P&G has been focusing on finding unique alternatives for its waste. For example, in Lima, OH, liquid waste from products like Tide and Gain are being converted to and other alternative fuels sources to power vehicles. Non-recyclable plastic laminate materials from its plants in Mandideep and Baddi, India are shredded and pressed into low-cost building panels. Through efforts such as these around the globe, P&G is not only reusing and recycling for its own needs, it is investing in local communities by helping convert its waste into raw materials and feedstock for other companies.

Currently, more than half of P&G's production sites have achieved zero manufacturing waste to landfill status, including a broad range of product families and geographic regions. In 19 countries (Germany, U.K., Poland, Japan, Mexico, Spain, Egypt, Belgium, Ireland, Vietnam, Hungary, Indonesia, Czech, Romania, Singapore, Korea, Thailand, Turkey and Pakistan) all manufacturing facilities have met the zero waste qualification, and the company is approaching 100% of sites in other countries including China and India.

"Our employees are using the same innovation skills and zero loss mentality they put into manufacturing our products to drive out waste," says Yannis Skoufalos, P&G president of Global Product Supply. "For example surfactants from Head and Shoulders waste in China are repurposed into carwash, while scrap from our Tampax plant in Canada is used to make emergency spill containment products. These innovative external partnerships enable our sites to see scrap not as waste, but as potential worth for someone else."

(Source from: "www.nonwovens-industry.com")

Personal care wipes: A growing market

Newcomers and veterans continue to push out new products and technologies

Innovation is alive and well in the personal care wipes market, and the segment continues to see growth.

According to statistics from Euromonitor International, retail value in the personal care wipes market has grown roughly an additional \$900 million (constant value, fixed

Market Trends

exchange rate) from the years 2009 to 2014. Further, the market tracker predicts a nearly 3% growth in volume terms, at compound annual growth rate, during the 2014-2019 time period.

Baby wipes, facial/cosmetic wipes, feminine/intimate wipes, adult incontinence wipes and flushable wipes are among the key categories of personal care wipes on the market. According to Dave Deising, director of marketing for contract manufacturer Rockline Industries, the facial wipes category is booming, especially in private label, as innovation, creative packaging solutions and unique substrates are sought. He credits the category's success to a specific demographic—the millennial generation. “The millennial interest in using facial wipes is much more common than the baby boomers, even generation X,” he explains. “The millennials are becoming a big or are a big segment and they find it very convenient to use a facial wipe.”

Barb Noel, business develop manager of Kleen Test, is also seeing success in this market. “We are seeing the most growth in makeup remover and cosmetic wipes within the personal care category. The younger generation is willing to pay a premium price for high quality packaging, multi-functional features and products that offer convenience,” she says.

The growth of online purchasing is another trend Kleen Test is noticing within this category. “Many consumers are subscribing to automatic repurchase for commonly used items like makeup remover wipes every 30 days,” Noel adds.

The sheer number of facial cleansing wipes out on store shelves (nearly every skin care brand seems to have one), allows consumers to compare different formulations and characteristics—are they exfoliating, gentle, or acne-fighting? And even with so many options available, wipes makers continue to pump out new products.

Kimberly-Clark, which is well versed in the consumer wipes market through its Huggies (baby wipes), Kotex (feminine wipes) and

Cottonelle (flushable wipes) brands, is looking to capitalize on the growing facial cleansing wipes category with a new line under its consumer tissue brand Kleenex.

Launched in December, the Kleenex line features facial cleansing wipes, exfoliating cushions, eye makeup removers, and more. “The Kleenex Facial Cleansing line-up offers an exclusive, fabric-based technology that combines textured, multi-layered fabrics and gentle cleansers infused with a pro-vitamin complex for noticeably healthier looking, and feeling, skin,” says Eniko Olah, senior brand manager, Kleenex Facial Cleansing. “The products are water-based and therefore will not leave a residue like other wipes, and leave consumers with a freshly washed clean.”

According to the company, the moist facial cleansing wipes' exclusive multilayered, textured fabric lifts and traps dirt, oil, makeup and impurities. Kleenex's dual-sided exfoliating cushions smooth and polish the skin while the water-activated cleanser cleans the skin, and exclusive fabric technology used for its moist eye makeup removers is infused with oil-free remover to lift and trap even long-lasting eye makeup with ease.

Olah says that Kleenex's decades of experience in producing high-quality tissues and nonwoven fabrics had led to its decision to enter the facial wipes category. “At the same time, we know that we can leverage our rich experience to identify new ways to meet consumer needs. Despite the breadth of the facial cleansing category, we believe that this new line of Kleenex Facial Cleansing products addresses the current unmet needs to make facial cleansing even more effective and simple.”

Currently, the Kleenex facial cleansing line is exclusively available at www.kleenex.com/facialcleansing, but Olah says the company is looking at plans to expand product availability at several “e-tailers” by mid-2016.

Procter & Gamble is also taking advantage of the rise in facial wipe growth by recently expanding its Olay brand to include Makeup Remover Wet Cloths. The fragrance-free wipes can be used to remove makeup, dirt

Market Trends

and oil on the eyes, face and neck. Earlier last year, the brand also added to its Fresh Effects line with {See Spot Swipe!} Oil-Reducing Wet Cloths. Infused with skin-awakening citrus and mint essences, the wipes feature patented Exfoli-dots to help users exfoliate skin while removing dirt, oil and make-up in a few simple swipes.

For its part, healthy lifestyle brand The Honest Company—most known for its eco-friendly disposable diapers and plant-based, natural baby wipes—launched a line of facial cleansing wipes in 2015. Honest's 3-in-1 facial towelettes gently cleanse, moisturize and remove makeup, and are enriched with naturally-derived olive oil and plant botanicals to help effectively dissolve and remove makeup and hydrate skin without rinsing. Aloe and chamomile infused in the wipes cleanse and condition. The wipes are available for \$5.95 for 30 wipes at www.Honest.com. For \$4 more, consumers can purchase makeup remover wipes under Honest's new cosmetics brand Honest Beauty. The similarly appearing wipes contain chamomile, calendula and aloe to calm and soothe, while grapeseed and olive oil gently and effectively remove dirt, oil and stubborn makeup, according to the company.

Meanwhile, Ban, a Kao brand known for antiperspirant, recently came out with body wipes. Available in four different scents, the brand claims Ban Total Refresh Cooling Body Cloths leave users feeling completely refreshed with just one wipe. The wet cloths can be used to freshen up when there isn't time for a shower—whether going from the gym to run errands, or heading from work to an event. Ban's proprietary PowderSilk technology imported from Japan sets these body cloths apart, according to the company. The cloths instantly cool on contact and leave skin feeling refreshed with a translucent, superfine powder so skin stays smooth and comfortable with no sticky residue.

Flush-Friendly

Despite negative headlines flushable wipes have been facing in recent years, saying they clog up pipes and water treatment systems, manufacturers are still seeing growth and anticipate even more growth potential in the future.

Rockline's Deising notes flushable wipes are doing well because people understand that the cleansing attributes of wipes have an advantage over dry toilet tissue. "As a company, we're very stringent and follow the industry practices, the INDA guidelines [regarding flushability], so that's a key box [manufacturers] have to check," he says. "If [the negative headlines] are having an influence, it's hard to read in the consumer data today. Could it be growing any faster? That's always the unknown. It's not causing the market to stop or retract; we're not seeing signs of it influencing the every day purchase by consumers."

Nice-Pak International is also aware of the demand for flushable wipes and ensures its products comply with the latest industry guidelines in terms of the way they break up in the waste water system, while also delivering on performance, according to marketing director Ian Anderson.

In fact, the company recently launched its latest dispersible technology dubbed Aquaspun. "Nice-Pak continues to work with a number of partners at the cutting edge of dispersible wipes development, taking into account not only the stipulations and requirements of the third edition of the EDANA guidelines on this subject, but also the various exciting and rapidly-evolving technologies which will see the next step-change in performance," Anderson says.

Natural is In

Another trend in personal care wipes is the "less is more approach" when it comes to ingredients, with more "natural" products being offered. Brands like Yes To and La Fresh tout paraben-free claims, while Simple Skin Care Wipes and Josie Maran Bear Naked Wipes feature no synthetic fragrances.

Although the word "natural" comes with its confusing statements, which makes using it a challenge, Rockline's Deising says cleaner chemistries and fewer ingredients in the formulation is the positive. "Making claims that it's high water content, few ingredients, good ingredients, 'natural' ingredients, that's very positive in the facial category," he explains.

Market Trends

In the baby care category, water wipes are becoming a trend, according to Bill Lutz, vice president sales & marketing, **Premier Care Industries**. "This product has minimal ingredients and a wipe that is heavily saturated with water," he says. "Hospitals today are not recommending a standard baby wipe as they have in the past and are recommending a dry nonwoven or cloth and just add water. For convenience, there is a brand on the shelf currently with growing distribution, and we are starting to get inquiries concerning this item for private label."

Lutz is likely referring to the brand **WaterWipes**, which are made with just two ingredients, 99.9% water and 0.1% grapefruit seed extract, a natural antimicrobial agent. Meanwhile, **Piyo Piyo**, a Taiwanese baby products brand that manufactures "Pure Water" baby wipes made using just purified water, a moisturizing agent and plant extract, recently announced its line of products will be available at select **Babies 'R' Us** stores, adding another water-based baby wipe to the U.S. market.

Rookie Wipes

While baby, cosmetic, and feminine care wipes have dominated the market, niche wipes are finding their way into the personal care space. But entering the market doesn't come without challenges for newcomers in the game.

"With all the task-specific wipes that have been introduced over the last few years, I continue to be amazed by the continuing plans for new, innovative wipes," says industry consultant **Susan Stansbury** of **Right Angle Concepts**. "That being said, I have told at least two developers that I am concerned about the small size of the niche and ability to penetrate the target market."

"Personal care wipes often attract small players with ideas," she continues, adding that these types of innovators tend to face some hurdles with regard to "pre-testing protocols, minimum production runs, and finding converter-manufacturers who can even produce these wipes meeting all the specialty configurations."

Despite any difficulties for the little guys, the last few years have seen many new and unique product introductions. One of these is a flavored facial wipe targeting babies and toddlers.

Two Colorado moms founded **NeatCheeks**, which are flavored with stevia, a natural plant extract, in order to make wiping a little one's face easier and more enjoyable. The wipes are also infused with purified water, aloe and honeysuckle.

CEO and co-founder **Danielle Stangler** and co-founder **Julia Rossi** came up with the idea about five years ago. The wipes first launched in regional **Walgreens** stores in Colorado in February 2014, but the ladies got an extra boost to their business when they appeared on the hit ABC reality television show **Shark Tank** last April. The show gives aspiring entrepreneurs an opportunity to pitch a panel of successful investors their unique innovations in hopes that they'll secure an investment in return for a stake in their company. Stangler's and Rossi's unique wipes were good enough to close a deal with "shark" **Barbara Corcoran**, an American businesswoman. The ladies received \$150,000 from Barbara for a 25% stake in their company.

Since the show's airing, the company has launched its "Just Peachy" flavor at the **ABC Kids Expo** in Las Vegas in October, and the wipes became available in **Babies 'R' Us** and **Toys 'R' Us** stores nationwide in the U.S. Last month, **NeatCheeks** began distributing in Canada and the company has plans to be in Australia by the spring.

Ironically, this isn't the only new wipe product that has appeared on **Shark Tank**. **Dude Wipes**, which took home a 2013 **Visionary Award** for consumer product innovation from **INDA**, the association of the nonwoven fabrics industry, appeared on the television show in October. Marketed for men, **Dude Wipes** are used as an adjunct to toilet paper in the bathroom or as a wipe for faces, armpits, or any other area of the body. They're made with aloe and are flushable and biodegradable, according to the company.

>>> Next 19

2016 Report about the development of nonwoven industry in China mainland

Production of 2014-2016 nonwovens by technology

Processing Technology	2014		2014/2013	2015		2015/2014	2016		2016/2015
	Production (10,000)	Pct. (%)	Growth (%)	Production (10,000)	Pct. (%)	Growth (%)	Production (10,000)	Pct. (%)	Growth (%)
Spun-melt	122	46.29	+7.01	137	46.58	+12.3	150	46.01	+9.49
Spunbonded (incl. S and M composite)	118	44.78	+6.79	132.5	45.05	+12.28	145	44.48	+9.43
Melt-blown	4	1.52	+14.29	4.5	1.53	+12.5	5.0	1.53	+11.11
Dry laid	131.4	49.86	+14.36	145.7	49.54	+10.73	163.85	50.26	+12.46
Needle-punched	63.5	24.09	+10.43	68.2	23.19	+7.40	74.7	22.92	+9.53
Chemical-bonded	11.5	4.36	+4.5	12	4.08	+4.35	12.5	3.83	+4.17
Thermal-bonded	13.4	5.09	+0.75	13.5	4.59	+0.74	15.1	4.63	+11.85
Spunlaced	41.5	15.74	+31.75	50.4	17.14	+21.45	59.9	18.37	+18.85
Stitch-bonded	1.5	0.57	-6.25	1.6	0.54	+6.67	1.65	0.51	+3.13
Air-laid	8.2	3.11	+2.5	8.4	2.86	+2.44	8.6	2.64	+2.38
Wet-laid	1.9	0.72	+5.56	3	1.02	+57.9	3.55	1.09	+18.33
Total	263.5		+10.39	294.1		+11.61	326		+10.85

2016 Main end-uses of China mainland nonwovens

Usage	2014		2014/2013	2015		2015/2014	2016		2016/2015
	Production (1,000)	Pct. (%)	Growth (%)	Production (1,000)	Pct. (%)	Growth (%)	Production (1,000)	Pct. (%)	Growth (%)
Medical, Health care and hygiene, etc.	1050	39.85	+15.38	1196	40.67	+13.90	1378	42.27	+15.22
Wadding	202	7.67	+5.21	217	7.38	+7.43	232	7.12	+6.91
Packing materials	240	9.11	+4.35	274	9.32	+14.17	298	9.14	+8.76
Household wipes and Cleaning Materials	269	10.20	+15.22	318	10.82	+18.22	360	11.04	+13.21
Geosynthetics	145	5.50	+3.57	151	5.14	+4.14	156	4.79	+3.31
Substrate for Coating & Lamination	80	3.04	+3.90	84	2.86	+5	87	2.67	+3.57
Roofing felt	92	3.49	+3.37	96	3.27	+4.35	99	3.03	+3.13
Furniture interiors	71	2.69	+2.89	74	2.52	+4.22	76	2.33	+2.70
Interlining	47	1.78	+2.17	48	1.53	+2.13	49	1.50	+2.08
Shoe materials	44.5	1.69	+2.29	46	1.56	+3.37	47	1.44	+2.17
Automobile interiors	129	4.90	+7.5	138	4.70	+6.9	147	4.51	+6.52
Filter media	175	6.64	+16.67	206	7	+17.71	237	7.27	+15.05
Agriculture use	16.3	0.62	+6.54	17.1	0.59	+4.91	17.6	0.54	+2.92
Paper-making felt	9.7	0.37	+2.11	9.9	0.34	+2.06	10	0.31	+1.01
The others	64.5	2.45	+3.53	66	2.25	+2.33	66.4	2.04	+0.61
Total	2635		+10.39	2941		+11.61	3260		+10.85

Area Report

In general speaking, the situation of 2016 China mainland's nonwovens production was totally smooth and stable, the output grew up to 10.85% compared with 2015, some enterprises' profit was less than before as production cost increasing.

as per processing technology

1) dry-laid

- spunlaced production grew up to 18.85% compared with 2015 (hygienic, health care and medical products increase esp. exported products)

2) spunmelt production grew up to 9.49%, as PP SS & SMXS composite nonwovens new lines for medical, health care and hygiene etc. were put in production in 2015.

3) Wet-laid production grew up to 18.33% compared with 2015, imported and localized wetlaid lines were put in production as flushable hygienic nonwovens' demand and wetlaid nonwoven production line investments with high output.

as per products usage

***- Medical, Health care and hygiene products grew up to 15.22%

- Household wipes and Cleaning Materials grew up to 13.21%

-filter media grew up to 15.05%

- Automobile interiors grew up to 6.52% because China Automobile production in 2016 reached more 28 million.

Challenge and Opportunity

- industry, product and technology structure will be continually adjusted

- strengthening innovation (including technical, market and sales model innovation.)

- increasing high added value's products production

*** huge developing potentiality of nonwovens as China's industrialized, civilized in large scale, sustainable & harmonized development strategies until 2020

<<< Continue 28

New Waterproof Makeup Remover Wipes feature a blend of sunflower seed, olive, and lavender oils, which is then combined with rice bran, sunflower, and rosemary leaf extracts. Each package holds 100 plant-based wipes at a suggested retail price of \$20. "We sure did pack a lot of wipes in a pouch," explains Yen. "In addition to giving our fans the new sensory experiences with these silky oil blend and skin-moisturizing extracts, we wanted them to have wipes that they can stash at home. I heard from many customers that they ask for extras when they see La Fresh wipes at hotels. Now you can keep these for yourself."

La Fresh Waterproof Makeup Remover Wipes are immediately available in limited quantities at La Fresh Group's website and on Amazon. In the spirit of celebration, shoppers can purchase the wipes for the discounted price of \$10.99 for a limited time. "This is our way of saying 'thank you' to our long-time customers," Yen continues. "I hope you love these wipes as much as the original ones." (Source from: "www.nonwovens-industry.com")

<<< Continue 17

The founders, Sean Riley, Ryan Meegan and Jeff Klimkowski, sealed a deal with U.S.-based investor and entrepreneur Mark Cuban-a \$300,000 investment for a 20% stake in the company.

Meanwhile, another "manly" wipe joined the specialty wipes market last year. Zekes Beard Wipes are a "mobile beard bath" made with essential oils, such as coconut oil, jojoba oil, and argan oil, specifically selected because they are optimal for cleaning and conditioning beards. Aloe in the wipes condition skin where it can be most irritated, especially for new beard growers. The 46-square-inch wipes are thick, durable, elastic and stretchy.

(Source from: "www.nonwovens-industry.com")

欢迎投稿

The Development of new nonwoven from TTRI

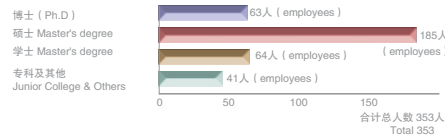
David C.C. Peng
Taiwan Textile Research Institute
Department of Textile Technology and Product Development

TTRI

History

- founded in 1959, as the name of Taiwan Textile Testing Center
- renamed as “Chin Textile Institute” in 1971, promoted to R&D Institute
- renamed as “Taiwan Textile Research Institute” in 2004, endeavored to innovative and advanced technology and industrial standards developments in textiles, as well as industrial technology information services

Facts and Figures



2014 Financial Accounting	
Government Funding (US\$)	19.47 mil.
Private Enterprises Funding(US\$)	13.29 mil.
Operating Revenue(US\$)	32.76 mil.

R&D Focus

Key Textile Materials

- High-strength fibers(or film),heat-resistant fibers(or film)
- New material modification and applications



Functional and Home Textiles

- Temperature-regulated textiles, functional sportswear, protective clothing
- Low carbon emission, new nylon, functional membranes



High Value Technical Textiles

- Nano fiber membrane, smart textiles
- Health care wound dressing, industrial membrane, filters, automotive interior



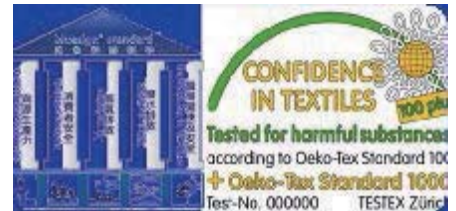
Ecological and Energy Textiles

- Bio-based material, textile process energy-saving low carbon footprint management, Supercapacitance fabric, battery use textiles, innovative energy product



Textile Testing and Certification Platform

- Functional and Technical Textile testing



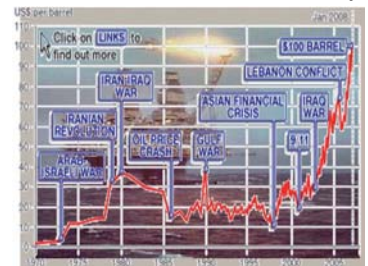
Outline

- | | |
|-------------------------|------------------------------|
| Investment Strategy | Emerging Technology |
| Sustainability | → Spunlaid Cellulose |
| Differentiation | → Composite Nonwoven |
| Technology Push | → Electrospinning Process |
| Multifunctional Synergy | → 3D Fiber Printing |
| Service Platform | → Advanced Filtration Center |

Cellulose Nonwoven

Limit VS Infinity Resources

- To reduce and abolish environmental and climate harm caused by energy consumption
- The European Commission pushes ahead the shift towards a low-carbon economy



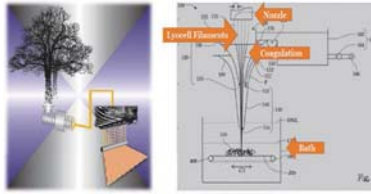
Past raw material source for synthetic fibers



Nature Choices for current source for fibers
Source: WIKI http://en.wikipedia.org/wiki/Oil_price#Pricing

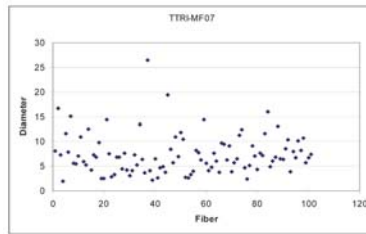
Technology News

Lyocell Spunlaid Apparatus



TTRI Lyocell Spunbond Apparatus

Diameter Distribution



Characteristics

- Hydrophilic, water retention, Antistatic, heat-resistant
- Continuous long fibers, tunable fiber fineness, ultra-fine fiber: 2-10 μm
- Sustainable source, biodegradable, eco-friendly
- Self-bonding, reduced fibrillation, solvent insoluble, no impurity

Composite Nonwoven

Traditional down jacket

Bloated, Not beautiful, Production complex, Uneven heat

Process: To sew the pocket, leave the hole, Down filling, and seal.

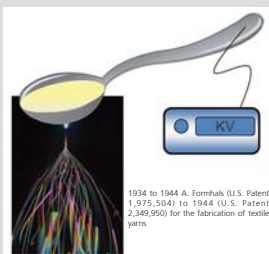
Composite Nonwoven

- Composite thermal insulation nonwoven was made by a one-step process to uniformly blend microfibers and down feather
- It could be cutted by automated laser for multi-layer at the same time
- It is the same with the synthetic fiber insulation cloth for the sewing method
- It could be the advanced insulation composite materials, after it is composited with air through nonwoven
- To give fashion designers a new play space
- It could be instead of the traditional down jacket
- Down feathers are trapped and entangled with microfibers to prevent down feather from leaking
- The fabrics show high insulating ability, warmth, compressive recovery, easy transportation, and easy storage



Continuous Down Insulation Materials VS Other Insulation Materials

	Meltblown Polypropylene	MB PP+ PET Staple fiber	3M Thinsulate	Continuous Down insulation
Thermal Performance (CLO/cm)	0.9~1.3	1.7	1.7	2.0~2.4
Insulation Rate (%)	65.3	78.2	60	80.7
Compression recovery(%)	75	88	89	92
Fiber Diameter(μm)	熔噴0.9~3.3	熔噴0.9~3.3 短纖15.3	熔噴1.7~6.0 短纖25.6	熔噴0.9~3.3 短纖15.3
Micrograph				



Electrospinning Process

Electricity + spoon + solution = nanofibers

Transparent Conductive Film



Why a new transparent conductive material is needed?



Technology News

Comparison of Transparent Conducting Films

Transparent Conducting Films		ITO Film/Toyobo	Silver Nanowire Cambrios	Electrospinning Process/Akron
Performance	Conductivity (Ω)	>10	1-500	5-300
	Transmittance (%)	80-93	80-96	85-96
Material	Material (\$/sqm)	9	15	<4
	Equipment (\$/sqm)	2	1	<1.5
	Yield (%)	90	80	≥ 90
Large area production		Poor	Good	Good
Production capacity		Good	Fair	Good
Flexibility		Poor	Good	Good
Disadvantage		Vacuum energy consumption	Wastewater treatment, Silver ion migration, Haze large	Uniformity Control

Electrospinning Submicro Fiber for Metal Mesh Conductive Film



Submicro Metal Conductive Fiber Film

3D Fiber Printing

Market Breakthrough

Accelerate product development and production, Immediate response Market demand

Design Breakthrough

3D three-dimensional shape, seamless and no size of the comfort, and, So that all imagination of the designer immediately become true

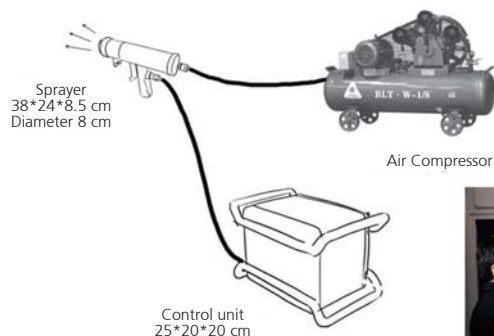
Process Breakthrough

Lightweight equipment, no waste and defective products can be recycled into raw materials



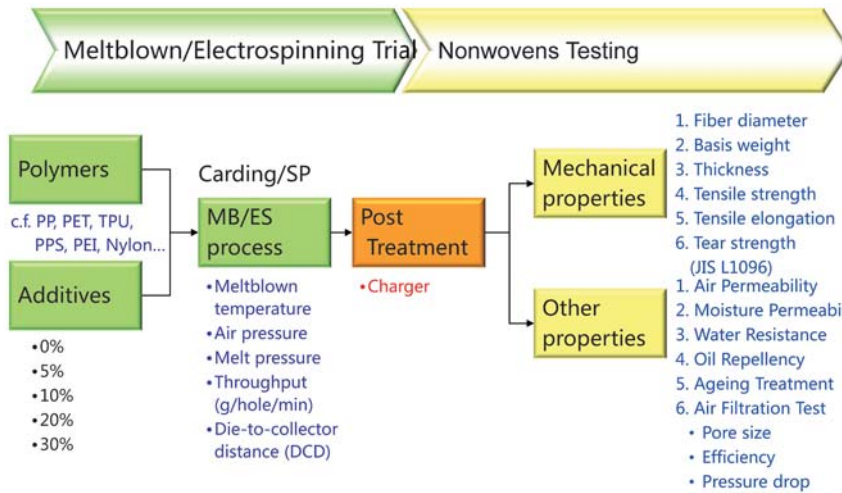
Sound Absorbing Nonwoven

New Spraying System



Lighting

Advanced Filtration Center



• Air Filter Test

- (1) HVAC Filter → (ASHRAE 52.2; EN 779)
- (2) Cleanroom HEPA/ULPA Filter → (EN 1822; IEST)
 - * HEPA/ULPA Filter
 - EN 1822-3 (Media Test)
 - EN 1822-4 (Leak Scan)
 - EN 1822-5 (Efficiency)
- (3) Cabin filter → (ISO 11155-1)
- (4) Engine Filter → (SAE J726; ISO 5011)
- (5) Filter Test → (EN 1822; 3; TSI 8130)



Automatic Vertical Leak Scanner



HVAC Test System



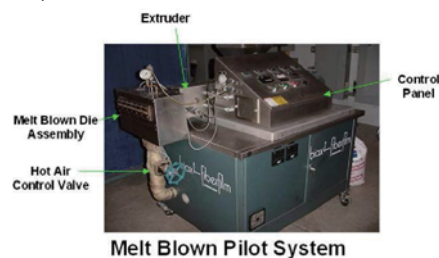
Filtration Efficiency System

• Biax type

- (1) 5" Mono Meltblown Pilot Line For First Trials (Less Than 1 kg/ trial); D=0.2mm/4rows & =0.5 mm/2 rows
- (2) 15" Mono Meltblown Pilot Line For More Advanced Trials; D=0.2mm/4rows & D=0.5 m/2 rows
- (3) 15" Bico Meltblown Demonstration Line
- (4) 15" Meltblown Line For Cellulose Nonwovens

• Exxon type

- (1) 10 cm Mono Meltblown Pilot Line For First Trials (Less Than 1 kg/ trial); D=0.4 mm
- (2) 32 cm Mono Meltblown Pilot Line For More Advanced Trials and Composite Nonwovens with Melt blown process; D=0.4 mm, 0.7mm



- Wide: 400 mm
- Spinneret: Nozzle size 0.5mm; 472 holes/row
Nozzle size 0.3mm; 552 holes/row
- Temperature: 460°C (max)
- Melt pressure: 3~10 MPa (ca.435~1450 psi)
- Air pressure: 5~30 psi (9kg/cm²max)
- Throughput: 0.03~1.5 /g/h/min
- Fiber diameter: 0.5~40 μm

Capabilities

- Engineering resins of low MFR thermal plastic;
- Specialty resins, such as PPS, PEI, LCP, etc...



• Respirator Testing Industrial



Industrial
NIOSH 42 CFR 84,
EN 149; EN 140; EN 143

Medical



- Medical
ASTM F2100, EN 14683

Item

- Filtration Efficiency
- Inhalation/Exhalation resistance
- Dust loading
- Breathing resistance
- Clogging test
- Flammability
- Dead Space
- Bacteria filtration
- Penetration by Synthetic Blood
- Differential Pressure

(Source from: "ANFA conference paper, this article extract.")

Technical Trends

Nonwovens in food pads

Airlaid and spunbond are key components to keeping perishables fresh

Perishables found in the grocery store such as meat, chicken, fish and produce rely on the food pads underneath them to soak up excess liquids and keep the foods fresh, and suppliers in the nonwovens and associated industries have stepped up to the plate by developing solutions in this market.

Nonwovens first made their way into food pads after specialty chemicals company Evonik earned FDA clearance for its food grade superabsorbent polymers (SAP) in the late 1990s, according to industry consultant Phil Mango. "This opened the door for nonwovens in food pads, as nonwovens contain SAP better than the previously used tissue or fluff pulp food pads," he says.

Mango identifies airlaid as the primary nonwoven used in food pads, but spunbond/SAP/spunbond laminates are also appearing in this market.

"Airlaid is ideal because a food pad has some of the same requirements as a hygiene absorbent core; quick acquisition rates, no/low rewet, absorbency capacity," he says. "No other nonwoven can combine with SAP as well to provide all of these attributes."

Fitesa, McAirlaid's and Glatfelter are among the airlaid manufacturers that currently produce materials for this market.

Mango estimates that in Europe, airlaid consumption for food pads has reached 17,000 metric tons and is growing at a CAGR of 5.5%. "Food pads themselves are growing at a smaller rate, but nonwovens penetration is increasing. In Europe, there are many smaller producers—no one or two dominant producers. There is also less centralized meat packaging. This makes it more advantageous to use airlaid; or to switch over."

Meanwhile in North America, 4500 metric tons of airlaid are consumed annually for food pads and the category is expected to grow at a CAGR of 6%, according to

Mango. But in the U.S., two big food pad manufacturers that take up roughly 60-70% market share of the food pad market—Novipax and Paper Pak—aren't using airlaid. Yet, these companies still look to nonwovens for their products.

Novipax, headquartered in Oak Brook, IL, manufactures an array of food pads that incorporate nonwovens. According to Frank Vaughn, technical marketing manager, Novipax uses spunbond nonwovens in some of its Dri-Loc, Pad-Loc and Multi-Loc varieties. Available in four options, the Dri-Loc pad is a polyethylene film on a polyethylene film. Dri-Loc Premier Pads feature a highly absorbent nonwoven bottom layer. Meanwhile, the company's Pad-Loc Pads feature a polyethylene film on a nonwoven layer, while Pad-Loc Fresh pads feature a non-permeable/non-stick polyethylene film, highly absorbent fibrous wood pulp, CO₂-generating materials and a hydrophilic nonwoven bottom layer film that attracts moisture to the pad. Novipax's Multi-Loc pads include highly absorbent nonwoven top and bottom layers.

"In the pad, the nonwoven offers us a breathable pad," Vaughn says. "It allows the evacuation of air out of the pad a lot quicker. Also the nonwoven allows us to have the ability to wick juices in a single tray."

Elaborating on the company's unique products, Scott Maurer, director of marketing & new product development for Novipax, says: "We offer a sealed pouch pad, and the benefits of a sealed pouch pad is that all of our absorbent materials are consistently maintained within the confines of the pad itself. So there's no risk of adulterating the food products, our pads are used with, so all of our materials remain fully contained within the pad – that's one of the huge advantages we have in the industry."

Further, he adds, many companies that use Novipax pads use high-tech packing equipment, some of which forces huge demands via vacuum on the meat or produce. "They use our products because of the seal strength, and for those pads with nonwovens, they really hold up super well out in the marketplace."

Technical Trends

Meanwhile, La Verne, CA-based Paper Pak Industries' (PPI) base food pad products use a "pre-consumer" recycled tissue, but the company also incorporates coated spunbond polypropylene facing materials into many aspects of its products, along with super absorbents either as needed or requested by its customers, according to Ron Jensen, president and CEO of PPI. "Using nonwovens allows us to change the rate of sorbency and better tailor that rate to the application," he says.

Differentiating itself from other food pad makers in the U.S., Jensen says PPI offers the widest product line in the industry, giving it a major competitive advantage. "Our use of proprietary pre-consumer recycled tissue also allows us to make our products with the lowest carbon footprint, as determined by using the ASTM formula," he says. "Finally, we have a large, growing and patent protected line of 'active' absorbents used to either extend shelf life, reduce package odor or improve organoleptics. This line of products is largely unique within the food packaging industry, and it is receiving significant customer acceptance. Our R&D pipeline is quite full and we intend to continue to expand our product line to further develop this 'active' technology."

Super absorbent suppliers

Evonik, one of the world's largest producers of SAP, is currently the only maker of FDA-approved SAP for food grade nonwovens. Its only other competitor in this market, BASF, stopped global production for this type of SAP in 2012, according to industry insiders. Evonik's superabsorbents can be used in food pads that are placed under poultry, meat, fish, fruits and vegetables.

Creasorb, Evonik's non-hygiene product line, has been producing FAVOR-PAC superabsorbent polymers for food-grade nonwovens since the late 1990s. Its current grade, FAVOR-PAC 593, is its latest generation product, which has been on the market since 2007. FAVOR-PAC polymers are produced at two facilities in the U.S., in Greensboro, NC, and Garyville, LA.

Producing SAP for the food packaging industry is no easy task. Bobby Mitra,

business director for Evonik Creasorb, Nutrition & Care, says to garner FDA approval for such a product, a company must prove that it can control the amount of migratables in the product. The first part of the stringent approval process consists of toxicological studies, which ensure that the formulation contains no "chemicals of concern," which is essentially a list of undesirable chemicals for food safety. A good practice is to use GRAS (Generally Regarded As Safe) ingredients where possible.

Next, the product has to go through migration studies, which show that nothing harmful is migrating out of the product into the food. Migration studies are required for all FDA approved SAP. "There are some limitations in terms of what [the FDA] considers to be a sensitive migratable. So we must control the molecular weight of migratables," Mitra explains. "That's an important part of the FDA approval and it is put on our Certificate of Analysis."

Another important part of the FDA approval process is record keeping and formulation control. "Once you have registered a formulation with the FDA, that's locked in," he adds. If the product becomes FDA approved, then the site where it's produced is subject to auditing. "You have to be readily available for unscheduled audits. Then there are a lot of process controls that we have, to ensure both quality and formulation control," he says. When Evonik's FAVOR-PAC SAP became FDA approved, it received the food contact notification number 427.

According to Mitra, FAVOR-PAC provides added benefits when used in food pads compared to other absorbent products. "Whether it is used for hygiene products or food pads-in gram for gram absorbency-SAP is more cost effective than fiber, fluff pulp, tissue or anything else."

Gelok International, a producer of superabsorbent laminates used in food pads, currently uses granular SAP from Evonik. The SAP is sandwiched in between two cellulose sheets to form the laminate. These roll goods are cut into pads by the food tray producers and used as the absorbent core inside of a top sheet and bottom sheet to lock in the

Technical Trends

SAP, according to Steve Lazenby, general manager of Gelok.

The Dunbridge, OH-based manufacturer, which also produces laminates for hygiene, wound care and industrial applications, considers food pads a very good market for the company. "We've seen some pretty good growth in the food pad market because with our laminate, which is ultrathin, the food manufacturers can pack three times as much pads into a container as they could with a traditional fluff/SAP pad," Lazenby says. "So literally they're putting their shipping costs down by two-thirds. That's something very unique to us. Our niche in the market is that we do ultrathin high absorbency laminates."

Meanwhile, an alternative to using Evonik's FAVOR-PAC SAP is Technical Absorbents' Super Absorbent Fiber (SAF). Technical Absorbents has been producing SAF since 1993, and Dr. Mark Paterson, product development director, says SAF for food packaging has been used since the company's early days.

According to Paterson, compared to SAP, SAF has a more rapid uptake of water due to its high aspect ratio and the SAF can be fully integrated into the product to prevent gel shedding and loss.

"We make a number of different grades of SAF based on the customer's and product needs, this includes different fiber lengths and thicknesses. The SAF chosen for a particular application is designed to give appropriate absorbent properties for the given application and to be processable on the different technologies involved to meet the final product needs," he says.

While he couldn't go into detail, Paterson says the food packaging market is significant for Technical Absorbents' SAF, and right now, while the overall market is seeing modest year-on-year growth, he indicates growth opportunities do exist in Asia.

"All our SAF grades are made to the highest quality standards and we exceed the requirements for producing food packaging SAF grades," he adds. "The ongoing challenge is to continue to produce SAF grades at a lower cost and to continue to exceed the ever changing and evolving regulatory requirements across different regions of the world."

Adhesive's role

Milan, Italy-based Savaré Specialty Adhesives, which supplies an assortment of hot-melt adhesives to many markets in the nonwovens industry, has been producing hot melts for the food pad industry for nearly a decade.

"The experience gained over the years across the whole production process of this specialty business has enabled us to achieve a leading position," says Lorenzo Stella, sales manager, Savaré.

Savaré offers several specialty products both for the pad lamination and for the pad fixation into the trays. For pad lamination, Stella says the company's adhesives are designed to meet various technical needs including high yield with excellent bonding strength at low add-on rates on different nonwoven types; direct food contact compliance; no bleed-through with aperture nonwovens; excellent aging behavior; clear color and low odor.

Stella notes that for the hot-melt to be successful, it should be designed so that the pad absorption capacity is not altered. Further, strong pad edge bonding is required, even under severe wet conditions.

While Savaré isn't new to food pads, the company continues to see room for development in this market. Stella says: "The trend of customized pads to satisfy specific consumer needs for fruit, vegetables, meat and fish, as well as moving to recycled tray materials, are triggering new challenges and opportunities."

(Source from: "www.nonwovens-industry.com")

Product News

Freudenberg adds super-microfilament textiles to Evolon range

Newest Evolon material prevents down feathers and dust from escaping pillows, duvets

Freudenberg Performance Materials' super-microfilament textiles - the latest in the Evolon product range - are the new technical and eco-friendly solution for pillows, duvets, sleeping bags and other quilted products filled with feathers and down.

Thanks to its structure of closely entangled super-microfilaments, which are up to 200 times thinner than a human hair, weighing less than 130gsm, the new Evolon variant is a high density cover fabric which prevents any loss of filling from even the finest layer of down. The textile also makes it possible to mask dark feathers or those that are a little too thick and prickly.

For even greater comfort, Evolon super-microfilament fabric is breathable, light, soft and drapable. The moisture generated by perspiration during sleep is quickly evacuated. The moisture management properties and downproof performance have both been validated by Germany-based Hohenstein Textile Testing Institute.

Evolon is known for being a natural physical barrier against dust mite allergens. As a result, Evolon also filters residual dust from feathers and down which could escape from the pillow or duvet. Bedding hygiene is considerably improved, according to the company.

The filtration quality of Evolon is strengthened with each washing. Unlike traditional textile covers with weave that can loosen and allow the down to escape, repeated washing causes the multidirectional, microfilament structure to tighten up, thereby reinforcing the barrier effect provided by Evolon.

Producing Evolon does not require the use of any solvents and minimizes water consumption quite spectacularly when compared to cotton-based textiles commonly used to make pillows and duvets containing

feathers and down. Within this context, it is estimated that the Evolon production consumes about 400 times less water, depending on the type of competing product.

Evolon is manufactured in Europe in accordance with ISO 9001, ISO 14001 for respecting the environment, ISO 50001 for its continuous programme of reduction in energy consumption and OHSAS 18001 for employee health and safety.

The company says pillow and duvet manufacturers will appreciate the ease of working with Evolon, with its edges that do not fray, therefore doing away with the need for a hem. Evolon can be dyed, printed and sewn just like any other textile. (Source from: "www.nonwovens-industry.com")

Unicharm launches Natural Moony diapers

Topsheet includes organic cotton

Unicharm Corp.'s new product, "Natural Moony," Japan's first disposable diaper for babies with a surface sheet containing organic cotton, has recorded growing sales since it was put on sale across the country on October 25.

Natural Moony has increased the softness of its surface sheet that touches the skin by 20% by mixing organic cotton. Also, by switching the hydrophilic agent used for the sheet to purely plant-derived one, the sheet has been made additive-free, mildly acidic to make sure that babies wearing the diaper can feel secured.

By using "Yuru-unchi Kyushu Zone" (soft stool-absorbing zone), a newly developed technology of using an uneven structure to absorb soft stool, Natural Moony has reduced the amount of soft stool remaining on babies' buttocks -- a phenomenon unique to babies less than 4 months old - by 36%. This has eliminated one of the elements that has caused diaper rash to babies' skin. Unicharm is determined to propose these new values to the diaper market by releasing Natural Moony.

Unicharm held an event in Tokyo on

Product News

November 30 to commemorate the release of the new product.

At the event held at the Nihonbashi Mitsui Hall in Tokyo's Chuo Ward, celebrity Emiri Henmi, who has a 3-year-old daughter and regularly writes about her childrearing on her blog, and dermatologist Arata Tomori, who gave birth to her second child this past August, participated in a talk show on the stage. The guests talked about the way they are bringing up their children as well as their use of organic goods in their daily lives.

Tomori emphasized that Natural Moony is friendly to babies. "I think babies are glad (to use diapers containing organic cotton). Babies' skin is very sensitive because the thickness of their skin is about half that of adults. And their backside tends to develop a rash by the friction from being wiped repeatedly every day. By using soft organic cotton for part of the diaper that touches babies' buttocks is great," she says.

Takahisa Takahara, president and CEO of Unicharm, also took the rostrum during the event, and explained the concept of Natural Moony.

"In developing Natural Moony, we aimed to realize a diaper that allows babies to feel as if they were gently enveloped by their mothers' hands at all times. As the social environment surrounding mothers has undergone drastic changes in recent years, the demand for disposable diapers from those rearing their children has become increasingly sophisticated and diversified," says Takahara. "We are confident that Natural Moony can meet the requirements of our customers, who want to select diapers using natural, safe and high-quality materials, just like when selecting food and cosmetics."

Regarding the company's marketing of Natural Moony overseas, Takahara says, "We would hold a Super Brand Day event on China's Tmall (online shopping mall) on December 15, and officially release Natural Moony at our Tmall Global Moony flagship store."

Yoko Kawakami, assistant brand manager for baby goods at the company's Global Marketing Department, said at the event, "We propose new standards for the way you select diapers by putting Natural Moony on the market under the slogan of 'selecting diapers is selecting materials.'" She then explained the soft texture of Japan's first surface sheet containing organic cotton, as well as the newly developed "Yuru-unchi Kyushu Zone" technology of using an uneven structure to absorb soft stool, of Natural Moony.

(Source from: "www.nonwovens-industry.com")

Daio launches cotton pad

Daio Paper, a Japanese absorbent products company, has released a 100% cotton pad for incontinence sufferers under the brand named Attento Cotton. To improve the water retention of the cotton material, Daio applied an oil-based solution. This will keep the pad from feeling unpleasant after getting wet, a problem also associated with cotton-based products.

(Source from: "www.nonwovens-industry.com")

La Fresh introduces new Makeup Remover Wipes

Launch marks company's 10th anniversary

La Fresh Group, Inc. announced the launch of its new, limited edition Waterproof Makeup Remover Wipes to mark the company's 10th year in business. Specially formulated with calming lavender oil and skin-repairing vitamin E for the occasion, these cleansing wipes are gentle enough for many skin types and yet effective even on the most stubborn, long-lasting makeup.

"It was amazing to realize that it's going to be 10 years since we started La Fresh," says Eve Yen, founder and president. "After I immigrated to California, I traveled across the country to promote my wipe manufacturing business. When you are always on the go, you learn to pack light. But cleanser in a bottle?" Yen remembers. "That was not at all convenient and I thought of having makeup remover — as a wipe — individually wrapped. Of course, we ran through over a million wipes and wrappers before getting it right. When we did, those original makeup remover wipes became La Fresh's first and best-selling product."

>>> Next 19

行业信息

安德里茨供给杭州鹏图一条配置了TT梳理机的完整水刺生产线

格拉茨2017年1月10日讯。安德里茨无纺布，作为国际技术集团安德里茨的部分，签得中国杭州鹏图化纤有限公司提供一条新的水刺生产线订单。生产线工作门幅3.6米，它的开车生产定于2017年的第三季度。

供货范围包括安德里茨带TT梳理机的neXline水刺exelle生产线，如今已成为中国高产能擦布生产的新标准。新的无纺布生产线年产克重30~80克/平方米的水刺产品20000吨。Jetlace Essentiel水刺机和neXdry 热风穿透式烘干机亦是订单的一部分。

杭州鹏图于1998年开始运作，在人造革涂层领域发展迅速。该公司目前已瞄准无纺布行业的水刺工艺，旨在跻身中国领先的水刺生产商。未来三年内，计划投资6条水刺生产线，安德里茨作为优先合作伙伴将大力支持公司的成长。



▲ 安德里茨带TT梳理机的neXline水刺生产线

Oji (日本王子) 纸尿裤工厂升级

名古屋的纸尿裤、纸尿片生产力增强

日本王子控股集团正在扩大其在日本名古屋的尿裤生产基地。2016年11月，其完成了第一次升级，纸尿裤产能增加了40%，总产量达到6.6亿片/年。

第二次升级将侧重于纸尿片的生产。王子控股集团将增加一条新生产线，计划于2017年9月完工，将使产量从1.35亿片/年增加到2.65亿片/年，将近两倍。

目前纸尿裤投资目标一直以国内销售为主，但纸尿片的市场将以中国市场需求增长为契机进行扩张。

(资料来源:“www.nonwovens-industry.com”)

JNC公司在泰国搭建新的热塑双组份纤维生产线

由合作伙伴ES Fibervisions公司提供技术支持

JNC公司已经开始运营一条新的热塑性双组份纤维(ES纤维)生产线，该生产线位于泰国罗勇的ES FiberVisions(泰国)有限公司。

ES纤维是一种独特的热塑性双组份纤维，可以加热粘合在一起，而不使用粘合剂。由ES纤维所制成的非织造材料柔软、蓬松，目前广泛用于如婴儿尿布和女性护理等卫生产品中。

新生产线年产能约14500吨。据报道，该生产线投资规模为1200万美元。

为了将业务发展到增长中的亚洲市场，JNC公司于2011年与全球销售的合作伙伴ES FiberVisions LP合资成立了ES FiberVisions(苏州)有限公司。此外，在FiberVisions成为Indorama Ventures Public Company Ltd(IVL)的子公司之后，JNC公司和IVL公司同意扩大其在亚洲区域的合作伙伴关系，并在ES FiberVisions(泰国)有限公司新建了双组份纤维生产线。

JNC公司将继续通过利用其制造纤维和非织造材料一体化的集成系统，积极地进行业务扩张，以满足亚洲市场的强劲需求。(资料来源:“www.nonwovens-industry.com”)

Autoneum将在中国建造第七个工厂

地毯系统和内前围部件将在中国东部城市烟台的新工厂生产

为了满足国际和当地汽车制造商对轻量化低噪声和热防护组件的持续强劲的需求，同时最大限度地降低客户的物流成本，Autoneum正在中国建造第七家工厂以扩大其生产能力。从2017年夏季开始，声热系统的市场领导者(Autoneum)，其工厂建于中国东部的山东烟台，规模约6600平方米，将确保及时为附近的汽车制造商提供产品支持。在批量生产开始之后，每年就可为约25万辆提供地毯系统和内前围部件，产量逐年增加会很容易。作为Autoneum工厂的可持续生产工艺实施的组成部分，聚酯生产废料或混杂的纤维将在烟台新工厂中回收和再利用。

行业信息

Autoneum的首席执行官Martin Hirzel说：“今年中国生产了2600万辆轻型汽车，成为了世界上最大的汽车市场。在这个发展中，投资建一个新厂将使我们的客户能够及时收到创新的轻量级组件，并显著降低物流成本。同时，在中国扩大生产能力符合我们的战略，并将有助于在中国增长我们的市场份额”。

到2020年，轻型汽车的产量预计将超过2900万辆，使得中国成为汽车行业的主要增长市场之一。除了重庆（从2006年起）、太仓（2010年）和沈阳（2011年）三家独资工厂，Autoneum还与日本汽车供应商Nittoku合资共同经营在广州（2003年），天津（2004年）和武汉（2013年）的三个工厂。

（资料来源：“www.nonwovens-industry.com”）

投资者获妇女卫生产品品牌股权

Paree声称其出售国内第一款无化学品卫生巾

据报道，Vini化妆品促销商Darshan Patel拥有了位于印度Noida的Sooth Healthcare公司的大部分股权，具体的交易规模目前并无报道。Sooth Healthcare公司是Paree牌卫生巾的制造商。第六感消费品投资公司仍持有该上市公司的23%股份。

Paree是一个价值导向的女性卫材品牌，目前在3000多家印度药店以及线上零售商中销售。Paree声称他们是该国第一个无化学制品的卫生巾制造商。

（资料来源：“www.nonwovens-industry.com”）

中国非织造材料新公司增加水刺线

浙江王金购进两条水刺线，计划订购更多
特吕茨勒将向中国非织造布生产商—浙江王金非织造布有限公司提供两条新的水刺线。其中一条线是高速梳理线，采用了特吕茨勒著名的杂乱辊技术。这条线将满足在高速下也能有很好成网效果的需求。另外一条线是交叉铺网生产线，用于生产低纵横比的高克重产品。一旦运行，它将是世界上最先进的交叉铺网生产线。

浙江王金非织造布有限公司成立于2015年12月，由经验丰富的管理领导，拥有强大的技术团队。该公司具有强大的财务背景，并准备进军水刺非织造布产品市场。

该公司最终计划，投资8条均来自特吕茨勒的先进水刺生产线，投资金额为6.6亿元人民币（约1亿美元）。这将使浙江王金在新市场中探索机遇，满足全球客户的需求。该公司预计最终年产量达7.5万吨，年销售额约为18.5亿元人民币（2.75亿美元）。

这两条生产线将于2017年开始投产，主要生产湿巾、面膜和其它卫生用品。

（资料来源：“www.nonwovens-industry.com”）

（<<<上接40页）

自节目播出以来，该公司还于十月份在拉斯维加斯的儿童博览会上推出了“桃色”味经典款擦巾，而且这款擦巾在全美国的婴儿用品专卖店和玩具专卖店内随处可见。上个月，这款擦巾开始逐渐在加拿大市场上盛行，并且公司计划今年春天会将该产品继续推向澳大利亚市场。

然而，讽刺的是，不仅仅只有这款新型擦巾产品上过“创智赢家”真人秀节目。同样，获得过2013年美国无纺布协会（非织造布工业协会）消费品创新奖的花花公子擦巾也于十月份出现在电视荧屏上。这种专门为男人设计的擦巾不仅可用作卫生间的如厕纸巾，还可以用于面部、腋窝或身体其他部位的清洁。据该公司介绍，这款擦巾由芦荟制成，具有良好的可生物降解性能。

该公司的创始人肖恩赖利，瑞安米根和杰夫克里姆考斯基与美国的投资企业家马克·库班做成了一笔大买卖，他们以公司20%的股份换得的对方30万美元的投资额。

与此同时，另外一种男人擦巾在去年也推向了特种擦巾市场，这款由精油制得的护须擦巾是一种“移动性胡须保养品”，所使用的精油包括椰子油、霍霍巴油和坚果油，专门选定这些精油是由于它们具有良好的清洁效果，还可以保持胡须的柔软和光泽，而擦巾中的芦荟成分会刺激皮肤，尤其是对于新长的胡子。这款46平方英寸的擦巾质地厚实，经久耐用，并具有良好的弹性。

（资料来源：“www.nonwovens-industry.com”）

市场动态

Bemax将通过亚马逊销售纸尿裤

公司今年春天将在电子商务网站列出两个自有品牌

纸尿裤制造商已经宣布，从4月份开始，Bemax公司将有两个自有品牌通过亚马逊网站www.amazon.com进入美国市场。

据首席执行官Taiwo Aimasiko称，在亚马逊启动是Bemax一次性纸尿裤渗透美国市场第一阶段的一部分。在2017年，公司计划进一步推出自有品牌到传统的美国零售商店。

在2015年9月，Bemax宣布将推出一次性纸尿裤和擦拭巾的独家自有品牌—Mother's Hugs。在欧洲和新兴非洲市场将通过Bemax现有批发商和零售商的分销渠道来销售和推广，同时通过Bemax电子商务网站在线销售。当时，高层管理人员估计年销售额将达到550万美元。

(资料来源:“www.nonwovens-industry.com”)

DryLock收购Presto吸收产品业务

在美国威斯康星州设立总部

National Presto Industries公司已将其吸收产品业务以7100万美元的价格卖给Drylock Technologies公司。比利时的Drylock公司将继续运营Presto的威斯康星州欧克莱尔的工厂，并使它成为美国的总部。它已经进入一个对National Presto工厂的多年租赁期，而且将为当前所有工人提供岗位。

“我们为过去几年中吸收产品业务的大步跨越而非常自豪，但认识到，为了圆满成功进入下一个阶段，我们需要结合行业中的一个主要参与者共同运作。” National Presto的总裁Maryjo Cohen说。

Drylock成立于2012年，在欧洲生产自营品牌纸尿裤，女性卫生和成人失禁产品。它的主要技术是围绕无或低绒毛浆吸收芯层，从而生产出超薄吸收产品。

“这次收购带给我们巨大的协同效应，扩充了我们在美国的产品系列，得到一个非常有吸引力的客户群和制造基地以及一个高度专业的管理团队。” Drylock首席执行官Bart Van Malderen说，“Presto吸收产品

业务的员工将被整合到Drylock的架构中，以确保现有业务的连续性。我们确信，这一战略性收购将有助于进一步增加内部增长，我们欢迎客户、员工和供应商的合作。像Drylock一样，Presto会专注于创新和质量。”

National Presto，也有为军队制作弹药和为消费者提供厨房小家电的部门，据称，它的吸收产品部门最初形成是在2001年收购了一家陷入困境的婴儿纸尿裤公司。如今它成了为慈善机构和零售分销商提供成人失禁产品的制造商。

Van Malderen表示这次收购符合Drylocks公司2020年的增长计划。公司在俄罗斯和捷克共和国都有工厂，并在2015年底收购了CIP Assorbenti公司，是意大利生产女性卫生产品的公司。

(资料来源:“www.nonwovens-industry.com”)

Lantor获得了新的投资者

Cathay Investments收获了非织造布生产商非织造生产商Lantor已经被Cathay Investments收购。该公司在荷兰Veenendaal的生产设施和德国Haibach子公司为工业应用开发、生产和销售非织造布。Lantor的产品可以用于从通信和能源电缆到纤维增强塑料(复合材料)，如风力涡轮机和游艇，以及服装业的标签。

以前的拥有者Active Capital Company (ACC)在不到两年的时间出售了Lantor。在这段时间，Lantor在荷兰和海外迅速成长。总经理Daan Koppen说：“我们非常高兴ACC是我们的合作伙伴和股东，我们期待进一步制定在此基础上的策略，但是现在作为Cathay的一部分，需要在Cathay中维持一个单独的身份。在Cathay我们有一个熟悉这个行业的长期股东，能够更好地帮助Lantor执行所选择的战略，并将协助未来计划的发展。”

Koppen以及其他的管理团队和Lantor的部分股东Martin den Ottolander也重新投资Lantor。Cathay的首席执行官Ben Chaing形容这收购是“进一步证明Cathay致力于建立一个完全整合的集团，从而在竞争日益激烈的市场为客户提供最好的服务”。

市场动态



位于英国克罗伊登的Cathay Investments拥有化学和分销行业的几家公司包括：Euroresins是欧洲一家为复合材料行业提供树脂、玻璃纤维和其它产品的大经销商；Amethyst集团，英国一家第三方物流和仓储服务提供商；Perkins Group Services，一家玩具和文具的经销商。

(资料来源：“www.nonwovens-industry.com”)

Huggies加紧努力弥补纸尿裤缺口

新方案使得纸尿裤储库以具有竞争力的价格购买大量的Huggies纸尿裤

Huggies宣布在这个给予的季节及其之后的节日将会给需要帮助的婴儿拥抱。2017年初，Huggies将成为全球第一个纸尿裤品牌，提供纸尿裤储库以有竞争力的价格购买大量高质量的Huggies纸尿裤。此外，现在到今年年底，Huggies将兑换所有纸尿裤奖励积分的捐赠来帮助有需要的婴儿。

这个声明是Huggies继续致力于回应2016年3月奥巴马总统的呼吁，去满足三分之一无法为婴儿提供新鲜干净纸尿裤的家庭对纸尿裤的需要。

“这些努力支持所有婴儿被拥抱，我们承诺帮助宝宝们获得他们茁壮成长需要的拥抱。”北美Kimberly-Clark婴幼儿护理公司总裁说，“我们受到父母拥抱的鼓励——悉心培养宝宝，使婴儿舒适，围绕孩子周围提供保护。假期是挂念他人并回馈的最佳时机，所以我们将这种灵感变成纸尿裤捐赠和提供更多的便利，使我们高质量的Huggies纸尿裤为国民纸尿裤储库网络（National Diaper Bank Network）提供帮助。”

“通过这个项目获得高质量Huggies纸尿裤，使国民纸尿裤储库网络（NDBN）得到的最好的价值。”NDBN总裁Joanne Goldblum说，“除了每年捐赠给NDBN的2000万件Huggies纸尿裤，新的纸尿裤采购计划将为NDBN成员提供所需纸尿裤的可信赖货源，为当地社区陷入困境的家庭提供完美的服务。”

父母们也可以通过捐赠Huggies的奖励积分来帮忙，Huggies将会兑现每一个捐赠的积分直到12月31日。

“我们希望所有的婴儿有机会健康快乐成长，”Buonfantino说，“在2017年，我们将继续作为一个领导者去尽力通过推进捐款和宣传，努力与纸尿裤的需求战斗，并且我们期待推出我们的新计划，从而通过NDBN帮助更多的有需要的婴儿。”

全年，Huggies响应奥巴马总统的号召增加纸尿裤的捐赠量和伙伴关系来扩展自己的长期承诺和领导力，与纸尿裤需求的斗争。迄今为止，仅在2016年，Huggies及其合作伙伴已经捐赠超过4800万纸尿裤和擦拭巾。

- 与AWHONN（妇女保健，产科及新生儿护理协会）以及全国的护士合作，延伸了AWHONN协会的健康母婴纸尿裤的推进计划。
- 与Baby2Baby建立五年的合作，举办纸尿裤捐赠活动。与Baby2Baby的支持者Jennifer Garner一起举办社交媒体活动，围绕纸尿裤需求意识周进行推动和宣传。
- 与迈阿密海豚队、旧金山49人队、底特律雄狮队联手，联合AWHONN的护士们一起主办纸尿裤的推进活动。
- 和零售商一起庆祝给予的季节来推进采购的额外纸尿裤捐赠。
- 帮助遭受自然灾害的家庭。

2010年，因为Huggies的一个开创性研究显示三分之一的美国母亲忍受着没有能力为自己的婴儿提供新鲜、干净的纸尿裤痛苦，金佰利公司首先把纸尿裤需求的问题提到前沿。这些父母往往必须在支付食物或纸尿裤之间选择，从而导致压力和冲突增加。Huggies自2010年以来，已捐赠超过2亿纸尿裤和擦拭巾，并作为NDBN的发起者和赞助商，帮助在全国建立了300多家有能力的纸尿裤储库。

关于新的纸尿裤采购计划的额外信息将会在2017年初用于纸尿裤储库。

(资料来源：“www.nonwovens-industry.com”)

Fibertex个人护理将升级丹麦生产线

投资更柔软产品生产线以提高产能

总公司Schouw & Co.称，Fibertex个人护理公司将升级丹麦奥尔堡的一条现有生产线。这次升级将会在生产线上增加额外的产能，期间将离线升级，使得它可以制造目前在马来西亚公司设施上生产的同样超

市场动态

柔软的熔纺非织造布。升级预计在今年年底完成，从明年开始Fibertex个人护理公司可以从欧洲供应材料。据报道，在此之前，该公司囤积了非织造布以弥补生产线暂时关闭的空缺。

据其他的投资新闻，Fibertex个人护理的印花分支Innowo Print公司正在德国工厂增加第二条生产线来应对欧洲增加的需求。该子公司也完成了在马来西亚工厂的第一条生产线，目前正在该地区建立客户群。也是在马来西亚，Fibertex个人护理公司最新的投资，在吉隆坡之外的汝来新建一条生产线和一个工厂，预计在2017年第二季度开始运作。

(资料来源:“www.nonwovens-industry.com”)

爱生雅继续与Wish of a Lifetime合作

卫生产品公司与非营利组织合作完成老人一生的愿望

Tena失禁产品的制造商爱生雅，宣布与Wish of a Lifetime，一个致力于改变社会对老龄化看法，满足老年人梦想的非营利组织，和国家最大的养老运行机构Brookdale Senior Living继续合作。Brookdale是Wish of a Lifetime的一个长期合作伙伴，也是爱生雅的客户。爱生雅，Wish of a Lifetime和Brookdale将会一起实现四个老人一生的愿望。

“爱生雅共享Wish of a Lifetime的承诺去改变关于衰老的观念，使老年人勇敢生活”北美爱生雅失禁护理业务的副总裁Michael Feenan说，“我们一起希望可以给老人的生活产生长久的影响，无论年龄多大，他们可以体验舒适、独立和尊严。”

过去，爱生雅，Wish of a Lifetime和Brookdale在美国各地已经一起合作帮助社区老人实现这些愿望。在2015年，这个组织完成了三个妇女要奉献他们的生命去帮助别人的梦想。今年的项目是为四个忽略年龄和身体状况仍在寻求冒险的四个老人完成愿望。

“我们的目标是使世界变成老年人更美好的地方。我们很荣幸爱生雅和Brookdale加入我们的任务去完成这四个神奇的老年人的愿望且分享他们的故事来激励其他人”Wish of a Lifetime的执行董事Tom

Wagenlander说，“我们希望接受者告诉我们变老并不意味着我们必须停止做梦和失去生活的目标。”

实现愿望活动从11月开始，将持续到2017年初。在这周六，12月10日，在维吉尼亚州威廉斯堡的Brookdale，88岁的James Salvatore最终将实现他毕生的愿望去登上潜艇，这是他8岁时就梦想实现的。在第二次世界大战结束后不久，James在18岁应征加入了海军，尽管他的最大愿望是在潜艇上为祖国服务，但他被分配负责海军舰船上电子技术员的职责，所以从来没有机会。在爱生雅和Brookdale的支持下，Wish of a Lifetime将詹姆斯送到弗吉尼亚州的诺福克海军基地，参观一个现役的军事潜艇。

(资料来源:“www.nonwovens-industry.com”)

奥斯龙完成了Osnabrück厂的出售

剥离资产使奥斯龙更有效地发展其它业务
奥斯龙已经出售了其德国Osnabrück运营的子公司给Kämmerer Paper Holding公司。交易在2016年11月7日宣布。

奥斯龙在Osnabrück厂为墙纸、广告纸和自粘合标签离型纸生产纸基，这是过滤和特种纸领域的一部分。这次出售将减少奥斯龙的年净销售额约8000万欧元，且对调整后的营业利润略有积极的影响。这次交易还包括奥斯龙在AK Energie（一家和Kämmerer合资的企业）50%的股份，该公司是为电力和水处理服务的。

这次剥离将会使奥斯龙可以更有效地发展其它业务，追求与公司战略相适应的领域的增长。Kämmerer是一家在同一地点运营两条产品线的特种纸公司，生产预浸渍装饰纸和砂纸基材。

双方同意不公开交易的收购价格。

(资料来源:“www.nonwovens-industry.com”)

Ontex收购Hypermarcas的个人卫生业务

3亿美元的收购，扩张了Ontex美洲的零售事业部

比利时纸尿裤生产商Ontex集团宣布它已经达成收购巴西公司Hypermarcas S.A.（HM个人卫生）的个人卫生业务的协议，是以

市场动态

10亿雷亚尔（3.063亿美元）的公司价值收购。

这次HM个人卫生的收购扩展了从美洲到巴西的市场地位从而支持了Ontex的战略，增加了Ontex旗下品牌的销售，且进入了成人失禁用品快速增长的市场。

在过去的12个月，HM个人卫生在巴西日益增长的婴儿护理和成人失禁类别中，取得了约12亿雷亚尔（3.676亿美元）的收入，具有强大的本土品牌系列，包括婴儿护理品牌PomPom，Cremer和Sapeka，还有成人失禁品牌BigFral和AdultMax。

HM个人卫生是成人失禁领域市场的领导者，且在世界第四大卫生市场巴西的婴儿护理领域稳居第三位。自2012年以来HM个人卫生公司的表现优于市场。

Ontex首席执行官Charles Bouaziz评论：

“我们非常高兴去欢迎HM个人卫生进入Ontex集团。这个业务已经取得了在婴儿护理和成人失禁领域领先的市场地位，回馈消费者需求及强劲的销售执行力，树立了颇具影响力的品牌。成功整合墨西哥的Grupo Mabe后，添加这个业务到我们美洲零售部门将给我们在两个世界前五位的卫生市场中一个强势的位置。这是Ontex另一个重大的进步，确认了其在成为一家领先的国际消费者公司的发展上完全正确。确认我们步入了发展成为一个领先的国际消费品公司的正确轨道”。

（资料来源：“www.nonwovens-industry.com”）

Shiseido, Unicharm, Lion将形成产业联盟

形成产业联盟挑战Kao集团

Shiseido, Unicharm和Lion三家公司形成联盟向其竞争对手Kao发起挑战，Kao公司销售额和净利润连续六年保持增长。Unicharm和Lion宣布将各自持有日本零售公司Shiseido全资子公司20%股份。这一合作将使日本本土的三家公司在零售方面一起分享货架，一起参与产品促销。

然而在某些市场的竞争，三家公司具有独立的体系—Shiseido在化妆领域，Unicharm在一次性尿布领域，Lion在洗涤剂和牙膏

领域。三家公司的合作据说是出于Kao占据了主导地位的原因。该公司与零售商具有较强的议价能力，主要得益于开展各种市场营销和批发的活动，从而扩散Kao的产品。Kao的销售额大约是Shiseido和Unicharm的两倍。

（资料来源：“www.nonwovens-industry.com”）

熔喷非织造材料报道

熔喷非织造材料常常被它的“亲兄弟”纺粘非织造材料盖过风采，但仍有一些领域持续发展

熔喷非织造材料主要是在SMS技术上广为人知，在SMS中，熔喷和纺粘一起复合加工，应用到卫生材料中。熔喷纺粘的结合经济合理地改善了纤维材料功能的障碍。

虽然熔喷很大一部分应用方向是SMS，占其总产量的60%，但熔喷法本身也是一项非常重要的技术，因其独到之处有着广泛的应用，包括过滤，医用，湿巾等领域。

熔喷法是无纺布最古老的制造工艺之一，也有人说，它是最动荡的工艺。制备过程中，热塑性高分子材料从含有数百个小孔的模头中挤出成为纤维。热空气从模头喷嘴中由左向右喷出-迅速牵伸挤出的聚合物，形成极细的长丝流，接着被吹到由能有精细过滤功能的收集网上形成自粘合非织造纤网。

在我们涉足过的众多纤维材料设备市场中，由于对全球性SARS、H1N1禽流感等疾病的恐惧和海洋溢油冲击的汹涌需求，熔喷设备市场是最不稳定的，机械制造商Hills公司的蒂莫西·罗布森如是说。

然而，Robinson公司表示倾向于更细的纤维以及具有众多特性的熔喷材料，这种材料具有更多的优点，较好的耐化学性，更细微的直径（提高整体过滤效率以及‘品质因素’），还具有双组份结构（能持有电荷，兼容性好，利于助剂处理）。这些特点有利于减轻熔喷市场存在的成本问题。

“从Hill公司的观点来看，市场已对细纤维开始产生兴趣，供应商开始赶上这一趋势。”Robson补充说“近十年来在工业上

市场动态

已经尝试了不同的方法来制备超细纤维，但产业界仍难以界定额外增加的成本”，他说。

这一现象的出现有两层原因，一是法规对室内空气质量要求越来越严格，二是现在市场更关注不依赖于静电驻极的高效率过滤器。“另外，由于超细纤维的实用性，使其在熔喷市场其他特定领域中有更广泛的应用，比如它具有超高比表面积。”Robinson补充道。

Hills可提供所有类型的熔喷设备，包括能够生产传统直径、各种产量和各种聚合物的熔喷设备，但是目前Hills聚焦于生产双组份和亚微米（纳米熔喷）纤网。

为了满足市场对独特聚合物的持续需求，需要在螺杆挤压区使用耐腐蚀、耐高温的金属。Robinson补充说，“此外，要深化对亚微米或纳米纤维的研发，使用更高产量的生产方法有利于产品更好的产业化。”

供应者角度

金佰利是非织造行业最早的熔喷非织造布供应商之一和第一家将熔喷和纺粘结合的制备SMS材料的公司，提供两种类型的熔喷非织造布。该公司的超细纤维熔喷非织造材料具有高吸收性，具有低绒毛织物手感，并且能够印上各种各样的图案，也能进行不同的表面处理，双质感熔喷法可提供双面质感熔喷材料，一面粗糙一面光滑。

金佰利专业合作产品客户市场经理Jessica Berger声称金佰利熔喷材料是做湿巾的最佳基布选择，因为它能控制液体释放，比如黏胶水刺无纺布那样的纤维类无纺布具有更优越的性能。她说，“它对表面释放的化学物质适量-不会太多也不会太少。规整的粘合结构使得我们的熔喷材料能够提供微粒屏障功能和优良的吸收性能，能够生产更先进的个人护理非织造产品，包括病人保暖毯、桌面擦拭布和表面消毒湿巾。”“除此之外，它可以采用加热叠层或者液体表面活性剂处理”。

金佰利生产的熔喷非织造材料一方面用于

支持自己数十亿美元品牌产品生产，另一方面为合作伙伴提供材料创造非凡产品。

“我们的客户可以完全相信我们的产品有99.9%的首次质量等级合格率，这要归功于我们的高度自动化的生产，先进的控制系统，以及严格的统计质量控制，”Berger补充道。“我们的制造能力使我们能够满足客户的需求，同时也遵从法律法规。我们使用不同种的、独特的纤维和专有的材料结构可以帮助我们的客户实现其要求的产品性能。”

机器制造者角度

Mohammad Hassan, Biax-Fiberfilm的高级研发工程师，将熔纺技术进步的功劳归于市场提供大量的非织造材料的能力。近期的技术进步很大程度上是针对产量的提升，纤维直径的细化，更好的纤网均匀性，从而使非织造布制造商将传统单排熔喷技术和纺粘技术结合，通过生产出高强的微纤维和具有高粘度的高分子量树脂的纺丝技术。

Biax-Fiberfilm利用先进的更高操作压力的多排喷丝板技术，同时将喷嘴密度的极限值提至266喷嘴/英寸。除了这一点，Biax提供的喷丝头具有将毛细管效应下降到0.006英寸以实现生产性能优越的超细纤维。所有这一切都在产量方面具有显著优点。

“这样的进步有利于我们的客户使用一种新材料来生产开发迎合市场的产品”Hassan说。“熔纺技术在不断改善，由于其技术的成熟、如同成熟的湿法成网和梳理技术那样在赢得新的市场。除此之外，我们还能看到，现在医疗和电子领域的许多高科技产品也都借助了熔纺科技的优势，因为它们更容易‘量体裁衣’，而且制备过程更加经济。”

驱动市场的其他因素主要是为了更好地成网，即没有凝聚成团的更均匀的纤网，更高的生产能力，以降低制造成本和更细的纤维尺度来减轻产品重量提供更高的性能。

(>>>下转50页)

市场趋势

聚丙烯吸收性卫生用品市场将达到170亿美元

日益提高的卫生意识以及全球婴儿与老年人数是其增长的驱动力

由研究和市场提供的2012-2022年报告增加了从技术、应用（婴儿纸尿裤，女性卫生产品，成人尿失禁产品）、趋势和动态、竞争格局和各分支的预测方面增加了“PP可吸收性卫生材料”的市场分析。

根据这份新报告，到2022年，全球可吸收PP卫生材料市场有望达到170.3亿美元。预测期内，在消费者中日益增强的卫生意识以及全球使用尿片婴儿人数的增长是驱动全球PP可吸收卫生材料市场增长的一个关键因素。美国，日本以及欧洲日益增加的老年人口基数为成年尿失禁产品提供了很大的需求。

将人工合成原材料替换为生物基的原材料为该产业的制造商提供了一个新的途径。聚丙烯生物聚合物为防止婴儿皮疹等提供帮助，它可以维持婴儿皮肤的干燥。但是，长期暴露的PP可吸收产品可能会造成呼吸道问题，眼睛发炎、皮肤问题和神经问题。由制造商正在采取的一些研发举措来将他们的产品组合进行改进。

(资料来源:“www.nonwovens-industry.com”)

非织造布的日益增长的可持续性

可持续性选择对消费者越来越重要

根据SmithersPira最新的报告显示，在2017年，全球可持续性非织造布的消费量是370万吨或者说是948亿平方米，价值在141亿美元，其原因是一直持续到2022年可持续性非织造布快速增长。

根据SmithersPira最新的非织造布报告——《直至2022年可持续非织造布的未来》：非织造产业的可持续性已成为非织造消费者，零售商以及生产者主要的关注点。特别是对西欧以及北美的成熟市场而言，可持续性非织造产品市场虽小，但是增长迅速。

该报告的作者，Phillip Mango说道：“在过去的20年，在所有市场都在不断增长推动可持续性产品以及加工。其驱动力对于一些市场来讲，是对全球变暖的恐惧；对

另一些市场，来源于对石油供给以及价格的不确定性；此外，来源于对过量的垃圾填埋场的恐惧。不管源自何种推动力，许多全球社会公众都渴求更多的可持续性产品。非织造产业也不例外，其实，由于该产业的产品很大部分是用即弃产品更驱使非织造企业来研发可持续性产品。用即弃的婴儿尿布和用即弃的湿巾是最常见的非织造产品。用户，零售商以及政府都以疑问、渴望、有时候还是需要的态度来对待这些用即弃产品”。

按加工工艺、成网工艺（例如干法成网，纺粘，气流成网和湿法成网）和加固工艺（例如针刺，水刺，热粘合，粘合剂或者说化学粘合）来分析：

对于可持续性非织造布来讲，干法成网，结合水刺和针刺是比较合适的可持续性非织造产品工艺。从2012年到2017年，以干法成网加工的可持续性非织造布从120万吨增长到220万吨，每年的年增长率为13%。截止2022年，干法成网将达到320万吨的产量（占全部可持续性非织造布的61%还要多）。

纺丝成网非织造布是可持续非织造布的第二大加工工艺，不是因为现存的产品是可持续性的，而是由于加工工艺在非织造布工业中是如此地重要和庞大，其成本效益以及业绩的优势使得这项技术很难被代替。最有可能的是可循环利用的溶剂以及生物聚合物原材料将在可持续性非织造布中保留其具有优势的实用性。

干法气流成网是可持续性非织造布的第三大可以使用的技术，这项技术需要的能量很低，浪费也很低，极大的依赖于最可持续发展的原材料（木浆），通常这是最可持续性的加工工艺。然而并不是所有的产品都可以用气流成网工艺完成，轻量化（克重低于45g/m^2），疏水性的产品都是很难通过干法气流成网工艺来加工的，并且付出的代价很大。况且，全球的干法气流成网生产能力是有限的，并且扩张很慢。

(资料来源:“www.nonwovens-industry.com”)

Mann+Hummel开设了南非的办公室

市场趋势

过滤材料专家第一个非洲办公室的雇员将为汽车售后市场以及工业界顾客提供支持。Mann和Hummel于11月在约翰尼斯堡（Johannesburg）开了一间办公室，第一次开办了它在非洲大陆自营业务场所。由德国路德维希堡（Ludwigsburg）总部派来的过滤专家，在8月份建立了一间销售办公室，将从Johannesburg开展它的业务。

最开始的时候，将有6个雇员在这里工作。他们将提供在非洲大陆北部的汽车售后市场客户以及工业客户。从2017年开始，Mann+Hummel将同时从约翰尼斯堡的物流中心服务顾客。

由于这个新的据点，Mann+Hummel现在可以在所有的洲都有代表处，因此也可以更进一步遵循它更加靠近顾客的策略模式。Mann+Hummel的总裁以及汽车售后总经理Josef Parzhuber指出：“南非是非洲大陆最大的汽车售后市场，由于其政治以及经济的稳定性，南非具有很好的市场条件。这一步骤更加巩固了我们作为全球公司的地位，考虑到我们提供的地理位置便利以及解决方案，我们离客户更加近了”。

Mann+Hummel逐渐将目标集中在非洲大陆，过滤专家不排除将来有更多行动的可能性。Parzhuber解释到：“我们正在检查在其他非洲国家进一步投入的可能性。非洲的市场具有很大的可能性，可以为公司提供成长的机会。”

(资料来源:“www.nonwovens-industry.com”)

兰精宣布其重要的美国天丝投资

90000吨产量的设备将加入澳大利亚以及德国的其他扩展项目生产天丝纤维。奥地利兰精公司计划在2020年以前将其特色纤维工业的份额提高到占其全球收益的50%。这一目标将通过近期在兰精澳大利亚Heiligenkreuz和英国的Grimsby的现有兰精工厂的扩充计划实现，同时美国生产天丝纤维刚刚获得批准。公司的监事会已经批准了在亚拉巴马州莫比区（Mobile）年产能达90000吨的最现代化工厂的建设。这将是世界上天丝纤维最大的生产厂家，在莱赛尔纤维的历史上具有里程碑的作用，这项的投资据说达到了2.93亿美元。它将运用最先进的技术标准，将在2019年的第一季度开工。

现在，兰精每年的全球的天丝纤维的产量是222000吨/每年。到2019年，在莫比亚的新的工厂将会突破其他的天丝生产厂瓶颈，将全部天丝纤维的生产能力提高50%以上。决定在美国建设这个新工厂，主要是由于莫比亚良好的基础设施以及吸引人的能源价格。

兰精的首席执行官，Stefan Doboczky解释到“这项投资可以代表了我公司sCore TEN战略实施的一个里程碑，是前进的一大步，它将在2020年，为达到我公司特色纤维占50%收益的目标。这种突破也强调了我们对所有天丝纤维顾客的承诺，它们将通过使用天丝纤维-世界上最有可持续性发展的植物纤维，使其产品更加的可持续性。”

兰精扩张计划的更好实施对驱动公司的绿色增长是必要的，兰精公司已经建立了新的管理委员会任务，将关键技术、实施以及工程责任集合在一起。Heiko Arnold已被任命为公司的首席技术官。除了具有很强的科学和技术教育背景，Arnold在BASF具有多年的重大项目、连续运作、改进以及在研发方面的丰富的知识。他将对兰精集团所有的技术部门负责。

(资料来源:“www.nonwovens-industry.com”)

宝洁设定环境目标

计划到2020年所有生产工厂实现生产废料零填埋

宝洁称到2020年，在回收和资源化再利用上增加的投资，将使其全球100多家生产工厂实现消除所有工业废弃物。

自从宝洁公司开始要求生产基地生产废料零填埋以来，其全球56%的工厂都达到了这一目标，并计划未来四年内，所有工厂均实现废弃物零填埋。这意味着将消除或再利用原本要用于填埋的约65万公吨废料，相当于35万辆中型汽车的重量。

可持续发展执行发起人及全球织物护理业务总裁Shailesh Jejurikar说，“我们正在加快实现我们的长期愿景，努力做到最少的浪费。自2010年以来，我们一直致力于实现生产和消费废料零填埋。这一宣告标志着我们在实现这一目标的旅程中又迈进了

市场趋势

一步。”

宝洁通过使所有进料满足以下条件，来实现生产废料零填埋：

- 一 能全部制成成品；
- 一 能够在工厂内部或外部工厂循环使用；
- 一 或者能通过合作伙伴以其它方式重新使用。

宝洁一直致力于为其废料寻找独特的替代用途。例如，在Lima, OH, 生产如Tide and Gain这样的产品时产生的液体废料正被转化为其它替代燃料来驱动车辆。在印度Mandideep和Baddi的工厂将不可回收的塑料层压材料切碎，并压制成低成本的建筑面板。通过全球各地的努力，宝洁不仅为自己的需求进行回收循环利用，还通过帮助将废料转化为其他公司的原料在当地进行投资。

目前，宝洁已经有超过一半的生产地实现了生产废料零填埋，包括许多的产品系列和区域。在德国、英国、波兰、日本、墨西哥、西班牙、埃及、比利时、爱尔兰、越南、匈牙利、印度尼西亚、捷克、罗马尼亚、新加坡、韩国、泰国、土耳其和巴基斯坦这19个国家的生产设备已经具备可以实现零废料的能力，另外在其他国家，包括中国和印度也几乎可以达到100%零废料。

宝洁全球产品供应部总裁Yannis Skoufalos表示：“我们的员工应用相同的创新技术和零损耗的态度来制造产品，以消除废料。例如，在中国，海飞丝工厂废弃的表面活性剂用于洗车；在加拿大，Tampax工厂的废料被用于制造紧急溢漏遏制产品。这些创新的外部合作伙伴关系使我们的工厂看待废料不是废物，而是对其它产品有潜在价值。”

(资料来源:“www.nonwovens-industry.com”)

个人护理擦巾:一个不断增长的市场

无论经验浅薄还是经验丰富的科研工作者们都在持续推出新产品和新技术

在个人护理擦巾市场上创新是必要而又富有生命力的，并且在这方面未来会持续增长。

根据欧睿国际的数据显示，从2009到2014

年，个人护理擦巾的市场零售总价增加了约9亿美元，而且市场评估者预测在2014~2019年间成交量的年复合增长率将近3%。

婴儿擦巾，洁面/化妆擦巾，妇女卫生巾，成人失禁裤和可冲散擦巾等都是个人护理擦巾市场上的主打产品。通过市场营销总监Dave Deising了解到，面部擦巾类产品正在蓬勃发展，尤其是自有品牌创新型擦巾，新颖的产品包装方式和独特的材质正是寻求创新的方向。他还认为，产品的成功面世离不开80后一代人的不懈努力。

“相比婴儿潮一代，甚至任何其它年代，80后更喜欢使用面部擦巾及面膜。”他解释到：“80后逐渐成为面部擦巾及面膜的主要消费群体，他们认为使用该类产品给生活带来了很大的便利。”

克林测试的业务开发经理Barb Noel也见证了个人护理类产品中卸妆和美容擦巾、面膜的成功面世，她说：“我们见证了此类产品的蓬勃发展，尤其是自有品牌。年轻的一代愿意为了高质量的包装，多功能的特性以及可提供便利的产品而买单。”

克林测试指出网上订购已成为现在的趋势。“许多消费者会在网上自动订购一些生活用品，例如每三十天自动订购一次卸妆擦巾及面膜”，Nole补充道。

商场的专柜上有许多洁面擦巾（几乎每种护肤品牌都有），可供消费者比较每种产品所含的不同成分和特性—它们是否去死皮，是否温和，以及是否抗痘呢？有这么多产品可供选择，制造商们还在不断地推出新产品。

金佰利公司开发了好奇（婴儿纸尿裤）、高洁丝（妇女卫生巾）、科顿内尔（可冲散擦巾）等品牌、将不断发展的洁面擦巾类产品纳入消费纸巾品牌克里尼公司（Kleenex）的新系列。

十二月推出的擦巾（克里尼公司）系列产品中包含了洁面面膜，去角质垫，眼膜等产品。“洁面面膜系列产品采用了独特的工艺技术，该技术以面料为基础，结合了特定的纹理效果、多层织物和含有维他命

市场趋势

复合物成分的无刺激清洁产品，能明显改善皮肤的光泽和润滑度。”洁面擦巾高级品牌经理EnikoOlah说道，“这些产品都富含水分，因此不会像其他面膜一样留下残渣，并且还会给消费者带来水洗过后的清爽。”

据该公司介绍，这种洁面面膜不仅拥有特殊的多层结构，花式面料效果，还能够吸附灰尘、油污、化妆品残留物和杂质等。清洁面部时结合使用双面去角质垫和水活性洁面乳可使皮肤光滑透亮，富有光泽。此外，将特定的面料技术应用于无油卸妆巾中进行眼部卸妆，即使是长期残留的化妆品也能够轻轻松松地卸除干净。

Olah认为在生产高质量擦巾和非织造布的这几十年的历程中，擦巾已经拓展到面部擦拭品类这一领域。同时，我们清楚我们可利用自身丰富的经验通过探索新方法来满足消费者的各种需求。不管洁面产品的需求有多广，我们相信这种新型洁面擦巾系列产品都能够满足当前未满足的需求，从而使得面部清洁更有效、更简单。

如今，洁面擦巾系列产品已在www.kleenex.com/facialcleansing网站中开通了专门的购买渠道。然而Olah坦言，公司正打算在2016年年中通过增加网上销售代理商来扩大产品的购买渠道。

宝洁公司同样也利用了面部擦拭品的飞速发展，使得其经营的玉兰油品牌得以推广，其中包括卸妆棉等。这种无香卸妆棉可以卸除眼皮、面部和脖子上的灰尘、油污和化妆品。去年早些时候，该品牌开发的吸油纸在市场上也备受好评。通过加入醒肤柑橘水和薄荷精油可制得功能性卸妆棉，并且这种卸妆棉只要简单擦拭几下，在卸除灰尘、油污和化妆品的同时，还能帮助用户去除皮肤上的角质。

就主打健康环保品牌的Honest公司而言，它以环保的一次性尿布和天然的婴儿尿裤而闻名于世，并于2015年间推出了一系列的洁面擦巾。Honest公司推出的三合一卸妆棉触感温和、保湿、卸妆效果好并且富含天然橄榄油和植物精华，可有效溶解和除去化妆品残留物以及使未清洗的皮肤水合。将芦荟和洋甘菊等成分加入到卸妆棉

中，这种卸妆棉可在www.Honest.com的网站上以每30片5.95美元的价格购得。当支出超过4美元时，消费者就可以在Honest公司开创的新型化妆品品牌Honest Beauty中购买卸妆棉。据该公司介绍，这种包装相似的卸妆棉包涵了洋甘菊、金盏花、芦荟等成分，具有镇静舒缓的功能，而葡萄籽油和橄榄油等成分，触感温和并起到了有效去除污垢、油污和化妆品残留物的作用。

与此同时，以Ban杀菌止汗剂而闻名的花王品牌最近推出了一款擦巾，这款擦巾有四种类型的香味。该品牌代言人声称只需一片这种带有冰爽感的擦巾就能使用户神清气爽。无论你是在体育场上挥洒汗水，还是在工作中或是在处理事情上抽不开身，这种擦巾就可以用来擦拭梳洗而使你精神抖擞。据该公司介绍，Ban系列产品，除了这款擦巾以外，引进的都是日本独特的微粉末技术。这款擦巾不仅能够使皮肤瞬间变得冰凉滑爽，富有光泽，而且擦巾内蕴含的微细粉末可使皮肤保持柔滑舒适，并且不会留下粘性残液。

环境友好的可冲散擦巾

尽管可冲散擦巾在近几年曾经面临用户反馈这种擦巾容易堵塞管道和水处理系统的负面消息，然而制造商们却仍然看到了增长并预期未来将具有更大的发展潜力。

Rockline公司的Deising指出：如今可冲散擦巾做得很好，因为用户都知道这种可冲散的如厕擦巾的清洁属性比干纸巾更优。他宣称：“作为生产该产品的公司，我们非常严格地遵循美国无纺布协会关于冲散性能的导则，这一导则是制造商们审核产品可冲散性必须遵循的关键凭证。”同时他还说：“如果那些有关“可冲散”的负面消息还有影响的话，如今已经很难听到消费者的有关抱怨了。这种产品会更快地增长吗？显然答案是未知的，但是它不会造成市场停滞与市场的倒退，同时我们也没有见到影响到消费者每天购买需求的迹象。”

据营销总监Ian Anderson所言，尼斯柏国际公司也意识到了可冲散擦巾的需求，并且保证其产品可以遵循最新的有关可冲散性的行业导则，在废水系统中解体。

市场趋势

事实上，尼斯柏国际公司最近推出了一项名为aquaspun最新的可分散技术。Anderson宣称：“尼斯柏公司会持续地与许多伙伴进行合作来开发分散性擦巾中最前沿的技术。为此我们不仅要采纳欧洲非织造布协会有关可冲散性第三版导则中的规定和要求，而且还会看到令人兴奋的、迅速变化的技术进步，导致产品性能进一步改变。”

天然无害擦巾

个人护理擦巾中另一类主流产品就是天然无害擦巾。其成分少且易得、更天然。如声称无尼泊金（苯甲酯脂）的Yes To和La Fresh品牌擦巾，和无合成香料的Simple 护肤擦巾和Josie Maran等品牌擦巾。

虽然“天然”这个词是会导致某些令人混淆的声明，这些声明会是一种挑战。Rockline公司的Deising认为在配方中含有少量较清洁的化学成分是有利的。他还解释说：声称在“面部护理类产品中蕴含丰富的水分，含有少量、好的、天然化学成分具有非常好的作用”。

据Premier Care市场营销副总裁Bill Lutz所言，在婴儿护理类产品中，WaterWipes婴幼儿擦巾成为了一个主流产品。他说：“这类产品拥有最少的成分和高度浸润的水分。”他还补充，“现在的医院不像以往那样推荐使用标准的婴儿擦巾，而是偏向使用只加水的非织造材料或布。为方便起见，目前有一个货架品牌的销售量与日俱增，而且我们也开始拿到有关私有品牌此类产品的询价。”

Lutz经常提到WaterWipes这一品牌，其产品仅仅由99.9%的水和0.1%的葡萄柚籽萃取物这两种成分组成，葡萄柚籽是一种天然的抗菌剂。与此同时，Piyo Piyo（黄色小鸭）一个台湾的婴儿用品品牌商用纯净水作润湿剂和植物萃取物来制造婴儿擦巾。近段时间有消息宣称这一系列产品将会在美国的婴儿用品专卖店中公开售出，另一种水基婴儿擦巾也会推向美国市场。

特种（特定小众）擦巾

尽管婴儿类、化妆类和妇女类的护理擦巾产品已经占据了市场的主导地位，但

特殊擦巾仍通过它们自身的优势在个人护理擦巾的领域中占得一席之地。然而作为新型产品想要推向市场仍然是具有挑战性的。

Right Angle Concepts的产业顾问Susan Stansburyren说：“所有这些具有特定功能的擦巾在几年前就都已经引向市场了，然而我仍然惊叹于那些层出不穷的创新型新方案。”她还声称，“尽管如此，我已经至少跟两家开发商透露出我很担心特殊擦巾的小规模的生产以及将其渗透到目标市场的力量。”

“个人护理擦巾经常会吸引具有此想法的小型企业开发此类产品。” Susan Stansburyren补充说道，“这些类型的创新者往往面临着一些关于预试验协议方面的障碍，如最少批量生产经营以及寻找能生产满足特殊配置擦巾的复制加工商。”

无论这些小型企业遇到了什么样的困难，在过去的几年间依然推出了许多有特色的新型产品。其中有一款是针对婴幼儿设计的带香味的面部擦巾。

有两位科罗拉多州妈妈发现了一款带有甜叶菊香味的洁面擦巾，这是一款加入了天然植物提取液的擦巾，为了让这款擦巾使用起来更加舒服方便，她们在其中还加入了净化水，芦荟和金银花等天然成分。

首席执行官兼联合创始人丹妮尔-斯坦格勒和联合创始人朱丽亚罗西五年前发现的这款擦巾于2014年二月在科罗拉多州的沃尔格林首次面世，去年四月，她们参加了美国广播电视台“创智赢家”这个真人秀节目后，使得擦巾生意变得更加兴旺。这个节目给这两位有抱负的企业家提供了一个向成功投资者推销产品的机会，希望这些投资者对她们独特的创新型产品进行安全投资以换取她们公司的股份。不负所望，斯坦格勒和罗西以她们优质的产品与美国巨头商人芭芭拉·柯克兰达成了交易。她们得到了芭芭拉15万美元的投资，而芭芭拉也获得了她们公司25%的股份。

(>>>下转30页)

2016年中国 大陆非织造 材料产量

全国非织造科技信息中心

2016年非织造材料按加工工艺分类的产量比较

加工工艺	2014年		2014/2013	2015年		2015/2014	2016年		2016/2015
	产量 (万吨)	百分 率(%)	增长率 (%)	产量 (万吨)	百分 率(%)	增长率 (%)	产量 (万吨)	百分 率(%)	增长率 (%)
纺熔	122	46.29	+7.01	137	46.58	+12.3	150	46.01	+9.49
其中: 纺粘 (含纺粘与 熔喷复合)	118	44.78	+6.79	132.5	45.05	+12.28	145	44.48	+9.43
熔喷	4	1.52	+14.29	4.5	1.53	+12.5	5.0	1.53	+11.11
干法成网	131.4	49.86	+14.36	145.7	49.54	+10.73	163.85	50.26	+12.46
针刺	63.5	24.09	+10.43	68.2	23.19	+7.40	74.7	22.92	+9.53
化学粘合	11.5	4.36	+4.5	12	4.08	+4.35	12.5	3.83	+4.17
热粘合	13.4	5.09	+0.75	13.5	4.59	+0.74	15.1	4.63	+11.85
水刺	41.5	15.74	+31.75	50.4	17.14	+21.45	59.9	18.37	+18.85
缝编	1.5	0.57	-6.25	1.6	0.54	+6.67	1.65	0.51	+3.13
干法造纸	8.2	3.11	+2.5	8.4	2.86	+2.44	8.6	2.64	+2.38
湿法成网	1.9	0.72	+5.56	3	1.02	+57.9	3.55	1.09	+18.33
合计	263.5		+10.39	294.1		+11.61	326		+10.85

2016年中国大陆非织造材料主要用途

	2014		2014/2013	2015		2015/2014	2016		2016/2015
	产量 (千吨)	百分比 (%)	增长率 (%)	产量 (千吨)	百分比 (%)	增长率 (%)	产量 (千吨)	百分比 (%)	增长率 (%)
医疗卫生用品	1050	39.85	+15.38	1196	40.67	+13.90	1378	42.27	+15.22
絮片	202	7.67	+5.21	217	7.38	+7.43	232	7.12	+6.91
包装材料	240	9.11	+4.35	274	9.32	+14.17	298	9.14	+8.76
擦拭清洁材料	269	10.20	+15.22	318	10.82	+18.22	360	11.04	+13.21
土工合成材料	145	5.50	+3.57	151	5.14	+4.14	156	4.79	+3.31
涂层复合基布	80	3.04	+3.90	84	2.86	+5	87	2.67	+3.57
防水材料、 油毡基布	92	3.49	+3.37	96	3.27	+4.35	99	3.03	+3.13
家具内饰	71	2.69	+2.89	74	2.52	+4.22	76	2.33	+2.70
衬布	47	1.78	+2.17	48	1.53	+2.13	49	1.50	+2.08
鞋材	44.5	1.69	+2.29	46	1.56	+3.37	47	1.44	+2.17
汽车内饰	129	4.90	+7.5	138	4.70	+6.9	147	4.51	+6.52
过滤材料	175	6.64	+16.67	206	7	+17.71	237	7.27	+15.05
农业	16.3	0.62	+6.54	17.1	0.59	+4.91	17.6	0.54	+2.92
造纸毛毯	9.7	0.37	+2.11	9.9	0.34	+2.06	10	0.31	+1.01
其他	64.5	2.45	+3.53	66	2.25	+2.33	66.4	2.04	+0.61
总计	2635		+10.39	2941		+11.61	3260		+10.85

总体来看，2016年中国大陆的非织造布生产情况顺利平稳。总产量年增长率+10.85%，高于GDP增长率。由于各种成本上升以及全球经济低迷的影响，企业利润较之前有所降低。

按工艺来分：

1) 干法

水刺产品数量增加仍很快，达**18.85%**（如卫生材料、医用材料产量增大）

2) 纺熔

纺粘和熔喷生产线产量增加，由于较多SMMS生产线投产，PP SS&SMXS、SMMXS产量大幅增长，因此纺熔加工工艺类产品增加达**9.49%**（医保卫生用品增量最大）。

3) 湿法生产线数量增加，湿法产品的产量增长**18.33%**。

湿法成网加工工艺的非织造产品增长很大，主要是由于采用湿法成网加工工艺

地区报告

的医疗卫生用品其产品成本低、产量高、投资比有利，受到企业青睐以及引进欧洲生产线也助推了此类加工工艺产品的增长。

按产品用途分：

※ 医疗卫生用产品产量增长较高，达15.22%

※ 擦拭清洁材料产量增长13.21%

※ 过滤产品产量增加达15.05%

※ 土工合成材料生产缓慢（因短纤土工合成材料逐渐被涤纶纺粘产品所取代）

※ 油毡基材产量增长缓慢

※ 2016年中国汽车产销仍达2800万辆，由于新型非织造内饰应用增加，汽车内装饰产量仍有6.52%的增长

挑战和机遇

1) 非织造产业结构、产品结构和技术结构有待调整

2) 提高高附加值产品所占比例

鉴于中国的工业化、大规模的城镇化和可持续和谐发展战略的引导，“创新与转型发展”、“一带一路国家发展战略”以及放开二胎和快速步入老龄化社会，大健康、大医疗已成为未来最有生命力和潜力的发展趋势，中国非织造材料工业具有巨大发展潜力。

到2020年，中国的非织造布产业不仅在数量上将继续增长同时也会提高产品质量和产品附加值。

（<<<上接48页）

“我们根据顾客对产品的需求研发了不同规格的专业吸水材料，包括不同的纤维长度和密度。具体应用中的专业吸水材料会根据不同的应用设计出合适的吸水性能，采用不同的加工工艺从而满足最终的需求，”他说。

然而他不能透露更多详细的信息，Paterson说：“对于专业吸水材料而言，食品包装市场具有重要的意义。现如今，整个市场可以预见每年保持着适度的增长，他预计增长的机会在亚洲市场。”

“我们所有不同等级的专业吸水材料都按照最高的质量标准进行生产，都超过了食品包装中的专业吸水材料的等级，”他又补充道：“我们面临不断的挑战是如何以更低的成本生产专业吸水材料，来满足世界上不同地区不同监管法规的要求。”

粘合剂的作用

意大利米兰Savaré Specialty Adhesives公司为许多非织造产业提供热熔混合粘合剂，其中为食品垫产业生产热熔粘合剂已将近10年。

“过去几年积累的为整个产品生产工艺提供这种特殊粘合剂的业务使得我们处于行业的领先地位，”Savare销售经理Lorenzo Stella说。

Savare公司为食品垫复合和固定提供了多种产品。对于垫子的复合，Stella说：“公司的粘合剂可满足各种不同的技术需求，具备良好的强度，包括在低添加（比率和非织造产品类型），直接接触食物时的顺应性，非织造孔隙中不渗胶，优良的老化性能，清晰的颜色及低气味。

Stella解释道：“热熔性能的成功应用，其设计使食品垫的吸水性能稳定不变。未来，垫的边缘粘合强度需要加强，甚至在更严苛的潮湿环境中也要满足其要求。

“Savare公司的产品并非初次涉足食品垫，但该公司看到了开发这个市场的空间，”Stella说：“定制符合客户需求（用于水果、蔬菜、肉类以及鱼类）的垫子，涉足循环利用材料，这些趋势触发了新的挑战 and 机遇。”

（资料来源：“www.nonwovens-industry.com”）

新纤维不织布 研究开发

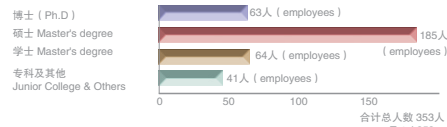
彭兆群
纺织产业综合研究所 产品部

纺织产业综合研究所

历史

---成立于1959年，名为台湾纺织检测中心
---1971年更名为“中国纺织研究中心”
---2004年更名为“台湾纺织研究所”，致力于纺织品创新和先进技术和行业标准的发展，以及工业技术咨询服务

人力

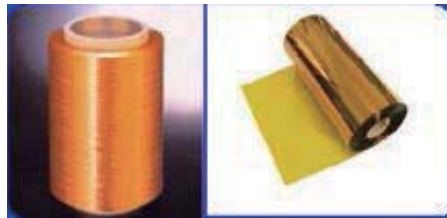


2014 财务统计	
政府 (US\$)	19.47mil
民营企业 (US\$)	13.29mil.
营业收入 (US\$)	32.76mil.

研究与开发

关键纺织材料

- 高强度纤维（或薄膜），耐高温纤维（或薄膜）
- 新材料改性及应用



功能性及家饰用纺织品

- 温度调节纺织品，功能性运动衣及防护衣
- 低碳排放，新耐隆，功能性薄膜



高附加值产业用纺织品

- 纳米纤维膜，智慧型纺织品



- 保健伤口敷料，工业用布膜，滤材，交通通用内装材

生态和能源纺织品

- 生质材料，纺织制程节能低碳足迹管理，超级电容织物，电池用纺织品，创新能源产品



纺织品测试及验证平台

- 功能性及产业用纺织品测试



题纲

全球不织布发展趋势

开发策略

- 永续性（环保）
- 差异化产品
- 技术导向
- 多功能整合
- 服务平台

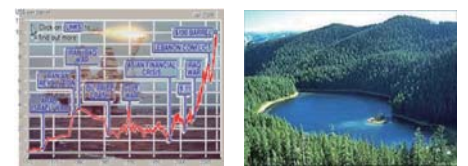
新兴技术

- 纤维素不织布
- 复合不织布
- 电纺纳米纤维
- 3D纤维列印技术
- 先进过滤中心

纤维素不织布

有限VS无限资源

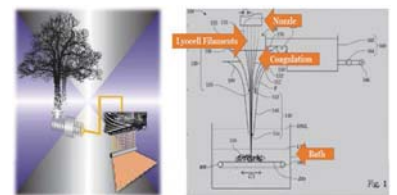
- 减少能源消耗对环境和气候的危害
- 推动低碳经济的转变



合成纤维的原材料来源

纤维资源选择

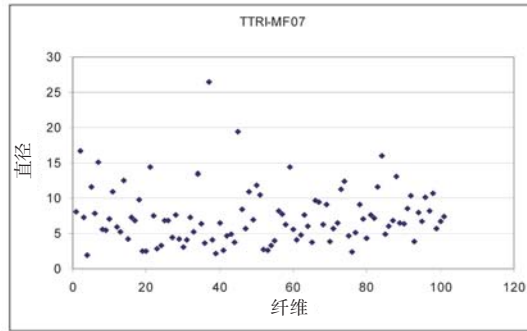
Lyocell直纺不织布制程装置



TTRI Lyocell纺粘设备

技术信息

纤维直径分布



特性

- 亲水性，保水力强，抗静电，耐热
- 连续长纤维，可调纤维细度，超细纤维：2-10 μm
- 可持续性来源，可生物降解，环保
- 不需要粘合剂，抗微纤化，抗溶剂，无杂质

复合不织布

传统羽绒衣

- 缺点：臃肿，缺乏美观，制作繁杂，冷热不均
- 制程：缝制口袋，留孔，灌羽绒，封口

复合不织布

- 将松散羽绒复合制成连续式含羽绒不织布形态
- 可以电脑雷射多层同时切割，省时省工
- 缝制方法与合纤保温棉相同，省去繁琐之缝袋灌羽绒等手续
- 与热风保温棉复合后，可制成高级保温复合材料
- 给予服装设计师崭新的发挥空间
- 提供取代羽绒衣，更广泛的选择
- 羽绒被超细纤维纠缠进，不易穿绒
- 含羽绒不织布将使保暖服成为美观贴身，不再臃肿丑陋，也不至于冷热不均匀，便于运输、储存

连续式羽绒保温材料与其他保温材料之比较

	熔喷聚丙烯	熔喷聚丙烯+聚酯短纤	3M Thinsulate	羽绒保温棉
单位元厚度保暖性能(CLO/cm)	0.9-1.3	1.7	1.7	2.0-2.4
保温率(%)	65.3	78.2	60	80.7
压缩回复性(%)	75	88	89	92
纤维直径(μm)	熔喷0.9-3.3	熔喷0.9-3.3 短纤15.3	熔喷1.7-6.0 短纤25.6	熔喷0.9-3.3 短纤15.3
显微照片				



电纺纳米纤维

- 电力+铁汤匙+溶液=纳米纤维 (见左图)
- 透明导电薄膜应用



- 为什么需要新的透明导电材料?

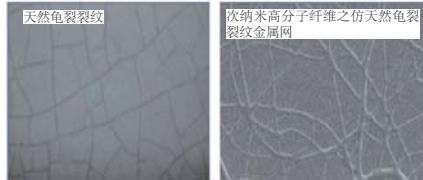


技术信息

•透明导电薄膜比较

性能指标		ITO 薄膜/ Toyobo	Silver Nanowire /Cambrios	应用电纺纳米纤维 网技术/Akron
材料性能	导电度 (Ω/□)	>10	1-500	5-300
	穿透率 (%)	80-93	80-96	85-96
生产成本	材料成本 (\$/sqm)	9	15	<4
	设备成本 (\$/sqm)	2	1	<1.5
	良率 (%)	90	80	≥90
大面积生产		差	佳	佳
产能		佳	可	佳
柔软度		硬脆, 无法达成	佳	佳
缺点		真空耗时	废水需处理, 短纤维银 离子迁移, 雾度大	均匀性控制不易, 量产问题 大, 需要高精密切割技术

•电纺次微米高分子纤维，成功开发出线宽小于2微米金属网格导电膜



•纳米金属导电纤维膜



3D纤维列印技术

市场突破

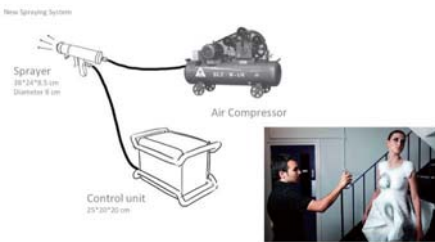
加速产品开发及生产，及时反应市场需求
无库存

设计突破

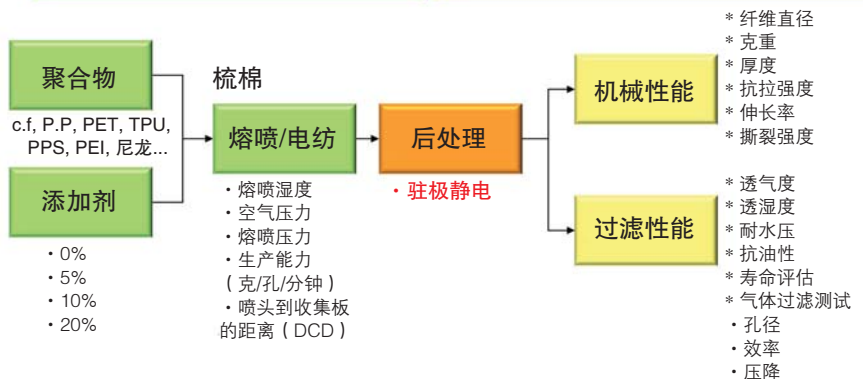
3D立体成形、无缝及无尺寸之舒适感，让
设计师所有想象立即成真

制程突破

设备轻量化、可低温制造、无废料及瑕疵
产品可回收原料



先进过滤中心



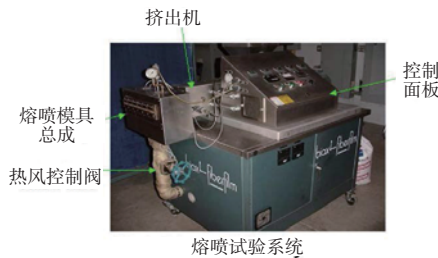
技术信息

• Biax type

- 1) 5英寸幅宽熔喷试验线
- 2) 15英寸幅宽熔喷试验线
- 3) 15英寸幅宽双组份熔喷试验线
- 4) 15英寸幅宽纤维素熔喷试验线

• Exxon type

- 1) 10cm幅宽熔喷试验线: Less Than 1 kg/trial; D=0.4 mm
- 2) 32cm幅宽熔喷试验线: For More Advanced Trials and Composite Nonwovens with Melt blown process; D=0.4 mm, 0.7mm



- * 幅宽: 400mm
- * 纺嘴: 喷嘴尺寸0.5mm; 472孔/行
喷嘴尺寸0.3mm; 552孔/行
- * 温度: 460°C (最大)
- * 熔融压力: 3~10MPa (ca.435~1450psi)
- * 空气压力: 5~30psi (9kg/cm²最大)
- * 吐量: 0.03~1.5g/h/min
- * 纤维直径: 0.5~40μm

性能

- a) 低熔融指数的工程用热塑性高分子
- b) 特殊树脂, 例如PPS, PEI, LCP, etc...



• 空气过滤网检测产品

- 1) 各种HVAC用空气过滤器→ (ASHRAE 52.2; EN 779)
- 2) 洁净室用HEPA/ULPA空气过滤器→ (EN 1822; IEST)
- 3) 车厢用过滤器→ (ISO 11155-1)
- 4) 引擎用过滤器→ (SAE J726; ISO 5011)
- 5) 过滤材性能检测→ (EN1822-3; TS18130)



泄漏检测系统



空调滤网检测系统



过滤材料效能检测系统

相关检测项目

- * 流量与压损的关系检测
- * 初始效率与压损检测
- * 粉尘负载性能检测
- * HEPA/ULPA的泄漏扫描及效能检测
- * 滤纸效率、压损及MPPS检测

• 口罩检测产品

- * 工业用口罩



美规



欧规

- 工业

NIOSH 42 CFR84, EN149; EN140; EN143

- * 医用口罩



- 医用

ASTM F2100, EN 14683

呼吸防护面罩检测项目

- * 微粒子过滤效率(42 CFR 84; ASTM F2299)
- * 呼吸阻抗(42 CFR 84; ASTM F2299)
- * 细菌过滤效率(ASTM F2101)
- * 合成血液穿透(ASTM F1862)
- * 密合度测试(OSHA)
- * 呼吸阀泄漏检测(RCT-APR-STP-0004)
- * 医用防护口罩压差测试(MIL-M-36954C)
- * 阻燃性能测试(EN 13274-4; 16 CFR 1610)
- * 二氧化碳浓度(EN 13274-6)
- * 阻塞性(EN 13274-8)

(资料来源: ANFA会议论文集, 本篇已节选。)

技术发展趋势



非织造材料在食品包装中的应用

干法和纺粘方法生产的非织造材料是保持食物新鲜的主要成分

对于肉、鸡肉、鱼肉这类在超市售卖的容易腐烂的食物，使其保鲜的方法就是在底部垫一层食物吸水垫，非织造材料供应商和其相关产业已经在该领域不断寻求更好的解决方法。

非织造材料是由Evonik公司率先引入食品垫行业，Evonik公司是一家专业的化工生产企业，在20世纪90年代末就已经获得了由食品及药物管理局颁发的可以生产食品级高吸水性聚合物的许可证。工业咨询顾问Phil Mango说：“Evonik公司获得该项生产许可证，将食物垫行业的大门向非织造材料敞开。非织造材料中含有的高吸水性聚合物，性能优于食品垫行业之前使用的薄浆纸或绒毛浆垫等。”

在Mango地区主要使用干法生产的非织造布食品垫，不过纺粘/高吸水性树脂/纺粘的复合材料也会应用在该领域。

“因为干法工艺生产的食物垫与卫生吸湿芯具有类似的优良性能，如快速采集率、低回渗性、吸湿性等”，他说，“用其他生产方式结合的高吸水性纤维无法提供这些特性。”

Fitesa, McAiraid和Glatfelter是目前生产这类材料的两大供应商。

经Mango预测，在欧洲，干法工艺的食品垫的消费量已经达到17000吨，并且在以5.5%的复合年增长率增长。“食品垫本身的消费量增长并不大，但是非织造食品垫在该领域的渗透量却不断增大。在欧洲，有很多小型的食品垫生产商，却缺少那么一两家主导者。同时，较为集中的肉类包装生产商也较少，这意味着非织造食品垫在此领域具有较大的优势，甚至有可能完全取代别的产品。

同时，北美洲每年会消耗4500吨干法工艺的食品垫，据Mango预测，食品垫的消耗量将以6%的增长率继续增长。但是在美国，Novipax和Paper Pak这两大食品垫生产商仍然占据了60%-70%的市场份额，虽然

他们并没有使用干法工艺，但是逐步开始关注非织造材料在其产品中的运用。

总部设美国伊利诺伊州Oak Brook的Novipax公司，生产各种各样包含非织造材料的食品垫。Novipax公司的技术营销经理Frank Vaughn说，Novipax公司也将纺粘法运用在Dri-Loc, Pad-Loc和Multi-Loc这几类产品中。Dri-Loc垫是将聚乙烯膜层层叠加，其主要特征是底层的非织造材料具有较强的吸水性。Pad-Loc垫是将聚乙烯膜覆盖在非织造材料上，Pad-Loc保鲜垫具有非渗透性和非粘性，用高吸水性木浆纤维、二氧化碳生产材料和亲水性非织造材料作为底层，这类底层有较好的防潮性。Multi-Loc垫的表层和底层非织造材料均具有较高的吸水性。

Vaughn说：“非织造垫的透气性较好，这样可以使快速流散。同时，非织造材料也可以在一个浅盘子里芯吸汁水。”

Novipax公司负责市场营销和新品开发的总监Scott Maurer介绍了公司的主要产品。他说：“我们会为用户提供一个密封包装，不仅可以我们的吸水性材料始终保存在特定的环境里，同时也减小了掺假的风险，这一点在整个行业里，是我们公司的一个巨大的优势。”

此外，他继续补充说，许多公司都在使用Novipax公司生产的非织造垫包装高科技设备，其中在真空包装肉或其他产品方面有很大的需求。他说：“他们使用我们的产品主要因为我们较强的密封性，这些非织造垫在市场上确实有极大的优势。”

位于加利福尼亚La Verne的Paper Pak Industries公司的总裁兼首席执行官Ron Jensen介绍，公司的食物垫产品采用消费前可回收纸品，但是仍然在许多材料表面涂有一层聚丙烯，满足客户高吸水的要求。”他说：“非织造材料可以改变吸湿率，而且可以根据需要随意剪裁。”

Jensen说：“不同于美国的其它食品垫生产商，PPI在行业内可以提供最大的生产线，这是它的一个主要优势。按照美国试验材料协会（ASTM）的评定规则，我们产

技术发展趋势

品特有的回收利用材质使我们的产品低碳环保。最后，我们有一个很大的吸收剂可以延长产品的保质期，降低包装的刺激性气味，增强美观度”。这条产品生产线在食品包装行业是独一无二的，并且被特殊顾客所接纳。而且公司的研发渠道也是非常完整的，在未来的发展中我们将继续扩大该项技术的生产线。

特殊吸湿材料的供应商

现阶段，Evonik是世界上最大的高吸水性聚合材料生产商之一，也是唯一一家通过食品药品监督管理局检测的符合食品级别的非织造材料生产商。据业内人士透露，他们在这个领域唯一的对手BASF已经在2012年停止向全球供应高吸水性聚合材料。Evonik生产的特殊吸湿材料可以在家禽、肉类、鱼类、水果和蔬菜包装中使用。

Evonik公司的非卫生产品线从20世纪九十年代就已经开始生产食品用级别的FAVOR-PAC高吸水性聚合材料。它最新的升级产品FAVOR-PAC593早在2007年就已经投入市场。FAVOR-PAC聚合材料分别在美国北卡罗莱纳的Greensboro和洛杉矶Garyville的两套设备上生产。

生产用于食物包装的高吸水性聚合材料并非易事，Evonik公司营养保健部的主管Bobby Mitra说：“要想获得食品药品监督管理局的生产许可，必须要证明公司有实力控制产品的稳定性。众多严格的审批流程中，第一部分就是由毒理安全鉴定组成，从而确保生产配方中不包含有毒性的化学物质。”这是食品安全中最根本的一条。在生产中最好的做法就是在可接受范围内使用通常情况下较安全的物质。

检测的第二部分就是产品必须通过转移性能鉴定，通过此项鉴定来判断该产品是否会将有物质转移到食物中。转移性能研究是食品药品监督管理局审批高吸水性聚合材料的必检项目。Mitra说：“食品药品监督管理局在评价材料稳定性时也会有一些局限性，所以我们要控制好分子量，这是食品药品监督管理局审批的重要部分，而且此项结果将会体现着该产品的分析证书中。”

食品药品监督管理局审批流程中还有一个重要项目就是要保持记载和配方控制。他补充

道：“一旦你在食品药品监督管理局登记了产品配方，那么这个配方就固定下来了。如果产品成为了食品药品监督管理局认证商品，这个产品的产地也要受到审查。他继续说：“我们必须随时准备着被抽查，所以我们有流程来控制质量和配方。”当Evonik公司生产的FAVOR-PAC型高吸水性材料通过食品药品监督管理局认证时，收到了427号食品接触通知。

据Mitra说：“当FAVOR-PAC在食品包装领域运用时，比其它吸收性材料产生了更多的额外效益。不论是运用到卫生用品还是食品垫，克重及克重的吸收性，高吸水性聚合材料比纤维材料、绒毛浆、薄纸或者其它材料都更加经济实用。

据Gelok公司的总经理Steve Lazenby介绍，生产食品包装用吸收材料膜的Gelok International公司，目前正在使用Evonik公司生产的SAP颗粒状高吸水性聚合材料，SAP夹在两层纤维素纤维膜中间形成叠加结构，这些产品被食品用托盘的生产商切成薄垫作为吸芯，放在表层和底层的高吸水性材料中间起到固定作用。

同样生产伤口用卫生产品和工业产品的制造商Dunbridge认为公司在食品垫领域具有很大的发展前景。Lazenby说，“我们已经在食品垫领域看到了喜人的增长，因为我们的超薄产品，食品加工商可以在集装箱中比传统材料多包装三倍的产品，所以他们在船运方面的成本可以减少三分之二，这对我们来说特别具优势，我们的商机就是从超薄高吸水性薄膜材料中挖掘到的。”

同时，另外Evonik公司的FAVOR-PAC高吸湿性材料的另外一种用途是专业的吸水材料，这种材料从1993年就已经投入生产，产品开发部主管Mark Paterson博士说，这种专业的吸水材料自公司成立之初就已经用于食品包装了。

据Mark Paterson博士说，相较于高吸湿性材料，这类专业吸水材料具有快速吸附能力，主要由于其较高的比表面积，而且它能够使产品的内部结构结合得更加紧密，防止胶体脱散。

(>>> 下转42页)

产品集锦

科德宝公司开发出超细长丝Evolon系列新品

最新研发的Evolon材料可以防止枕头、羽绒被中的羽毛和粉末钻出

科德宝高性能材料公司的超细长丝纺织品—Evolon系列的最新产品，是针对枕头、羽绒被、睡袋等绗缝产品的新技术和环保解决方案。

该超细长丝最细达到头发丝细度的1/200，克重小于130g/m²。由于其紧密交缠的超细长丝结构，使得Evolon产品成为一种高密度覆盖织物，即使填充的是最细羽绒也不会钻出。这一纺织品也可以掩盖深色的或较厚且有刺的羽毛。

Evolon超细长丝织物具有透气、质轻、柔软和良好的悬垂性，这些特性使得其更加舒适。睡眠时产生的汗液可以迅速被导出，它的水分调节性能和防钻绒性能通过了德国Hohenstein纺织测试研究所的认证。

Evolon是针对尘螨过敏原的天然物理屏障。因此，它还可以过滤掉可能从枕头或羽绒逸出的羽毛中的残留粉尘。公司指出该产品使得床上用品卫生状况得到很大改善。

每次洗涤都可以加强Evolon的阻隔性能。与传统纺织品洗涤后结构会变松散使羽绒容易钻出不同，Evolon产品重复洗涤后反而可以使得各个方向的超细长丝结构更加紧密，加强阻挡效果。

与通常用于制造填充物为羽毛和羽绒的棉型枕头或羽绒被等纺织品相比，Evolon不需要使用任何溶剂并能最大程度地减少耗水量。根据竞争产品的类型的不同，Evolon耗水量据估计最大可以减少400倍。

Evolon符合ISO9001、ISO14001环境管理体系、ISO50001能源管理体系和OHSAS18001职业健康安全管理体系的标准，目前正在欧洲投产。

该公司指出枕头和羽绒被制造商意识到Evolon易于使用，边缘不易磨损的优点，因此省去了包边的工序。Evolon还可以像

其它纺织品一样进行染色，印花和缝制。
(资料来源:“www.nonwovens-industry.com”)

Unicharm公司推出Natural Moony纸尿裤

面层含有有机棉

Unicharm公司的新产品“Natural Moony”是日本第一款含有有机棉面层的一次性婴儿纸尿裤，自10月25日在全国各地销售以来，销售额一直在增长。

Natural Moony通过混合有机棉，增加了其表面层与皮肤接触20%的柔软度。此外，通过使用纯植物提取的亲水剂，制成无任何添加剂、弱酸性的面层，以确保婴儿穿着时的安全。

通过使用Yuru-unchi Kyushu Zone（即便吸收区域），一种新开发的凹凸结构吸收软便的技术，减少了36%的软便在婴儿臀部上的残留，这是针对不到四个月的婴儿的独特设计。从而消除了造成婴儿皮肤尿布疹的一个因素。通过发布Natural Moony产品，Unicharm公司在纸尿裤市场实现了新价值。

11月30日Unicharm公司在东京召开新产品的发布会。

在东京中央区Nihonbashi Mitsui Hall举行的一次活动中，知名人士Emiri Henmi（有一个3岁大的女儿，定期更新关于她孩子的博客）和皮肤科医生Arata Tomori（8月份的时候刚生了第二个孩子）一同参加了该访谈活动。两位嘉宾谈到了他们养育子女的方式，以及在日常生活中也使用有机产品。

Tomori谈到Natural Moony对婴儿是安全健康的。她说，“我认为宝宝们是很乐意使用含有有机棉的纸尿裤，宝宝皮肤非常嫩，其皮肤厚度仅为成年人的一半，由于臀部与纸尿裤的反复摩擦易起红疹，Natural Moony通过使用柔软的有机棉作为与宝宝皮肤接触的面层解决了这一问题。”

Unicharm总裁兼首席执行官Takahisa Takahara也参加了活动并解释了“Natural Moony”的理念。

产品集锦

“在开发Natural Moony时，我们的目标是实现让宝宝感受到如母亲双手般温柔的纸尿裤。由于近年来母亲所处的社会环境发生了巨大变化，对于她们养育孩子的一次性纸尿裤的要求也变得越来越精细和多样化。”Takahara说，“我们相信Natural Moony能够满足客户的需求，他们希望选择天然、安全和高品质的纸尿裤，就像选择食品和化妆品一样。”

对于Natural Moony海外运营公司，Takahara表示：“我们于12月15日在中国天猫（网上购物中心）举办超级品牌日活动，并在天猫国际旗舰店正式发布Natural Moony。”

该公司婴儿用品市场部品牌经理Yoko Kawakami在活动上说：“选择纸尿裤时，我们提出新的选择标准，即“选择纸尿裤就是选择它的材料”，在这样的口号下，我们推出了Natural Moony。”她解释，Natural Moony是日本首次开发含有有机棉柔软质地的面层，使用凹凸结构来锁住便便。（资料来源：“www.nonwovens-industry.com”）

Daio推出棉垫

日本Daio纸业公司，一家吸水性产品公司，发布了一款名为Attento Cotton的100%棉型失禁垫。为了改善棉的保水性，Daio使用了油基溶液。这保证了失禁垫尿湿后的舒适性，这也是与棉型产品相关的问题。（资料来源：“www.nonwovens-industry.com”）

La Fresh公司推出卸妆湿巾新品

公司成立10周年纪念的标志

La Fresh集团公司宣布推出新型限量版防水卸妆湿巾以纪念该公司成立十周年。配方中特别含有具有镇定功效的薰衣草油和皮肤修复作用的维生素E，适合各种肤质，皮肤接触柔软且对于顽固持久的妆容也能清洁干净。

“La Fresh创立已经十年了是一件令人骄傲的事情，”该公司创始人兼总裁Eve Yen说，“当我移民加利福尼亚后，我走遍全国推广我们的擦拭产品生产业务。旅途中，大家都希望尽量便携，然而瓶装清洁用品携带并不是很方便，这使我想到了独立包装的卸妆湿巾。在确定最终成品前，我

们试过100万种湿巾，当成功时，该卸妆湿巾产品成为La Fresh第一代也是最畅销的产品。”

新出的防水卸妆湿巾含有葵花籽油、橄榄油和薰衣草油，然后再添加米糠、向日葵和迷迭香叶提取物。每包湿巾含100株植物萃取成分，建议零售价为20美元。“每一包装含有许多片湿巾，”Yen解释道，“除了含有使皮肤光滑的植物油以及纯植物提取的保湿成分，以给顾客带来新的感官体验，当然我们也希望他们在家也可以使用。许多顾客要求酒店也能够额外提供La Fresh湿巾。现在你也可以拥有该产品。”

La Fresh防水卸妆湿巾即将在La Fresh官方网站和亚马逊上限量销售。为了庆祝公司成立十周年，产品将限时以10.99美元的折扣价销售。“这是我们对老顾客的致谢方式，”Yen说，“我希望你们像热爱老产品一样喜欢这些新产品。”

（资料来源：“www.nonwovens-industry.com”）

<<<上接35页

所有这些进步令熔喷在各种市场中发挥更多的作用。对于过滤市场，熔喷一向受到重视，提高纤维的尺寸控制制度和材料选择创造了新的机遇。

“我们看到很多正在开发的与复杂的医疗应用相关的某些产品要具有耐高温和耐化学性。”

另一方面，在医疗领域，熔喷材料可生产新的产品，以防止或降低医疗过程中的获得性感染（医院感染）。在卫生市场方面，熔喷技术用新的弹性树脂和结实耐用的多排熔喷技术，提供具有优异的阻隔性能熔喷弹性叠层材料、取代了薄膜基叠层材料。

Hassan表示：“得益于科技的新进步，这些还仅仅是熔喷市场目标的一部分。专利和专有技术使我们的客户能够更经济地生产高档非织造布，主要驱动力是需要不断改进现有产品以及解决不断变化的客户需求的紧迫性”。

（资料来源：“www.nonwovens-industry.com”）

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