

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



垂直式混开棉机组
Vertical mixing opener



ASBG003气压自动棉箱
ASBG003 Air auto hopper



ASBG091梳理机
ASBG091 Carding machine



ASBG215系列梳理机
ASBG215 Carding machine



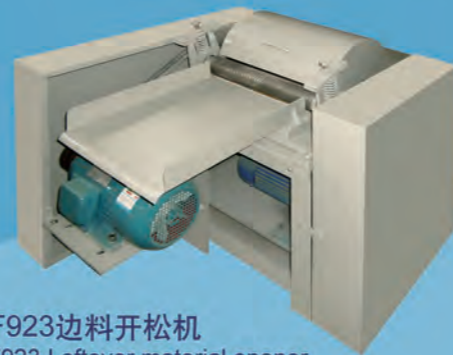
ASBG401高速铺网机
ASBG401 High-speed cross lapper



ASBG939大仓混棉箱
ASBG939 Large bin hopper



直列式混开棉机组
In-line mixing opener



WF923边料开松机
WF923 Leftover material opener

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CHANGZHOU JINYI MACHINERY CO.,LTD

节能、高效水刺非织造布生产线

Energy Saving and High Efficient Spunlaced Nonwovens Production Line

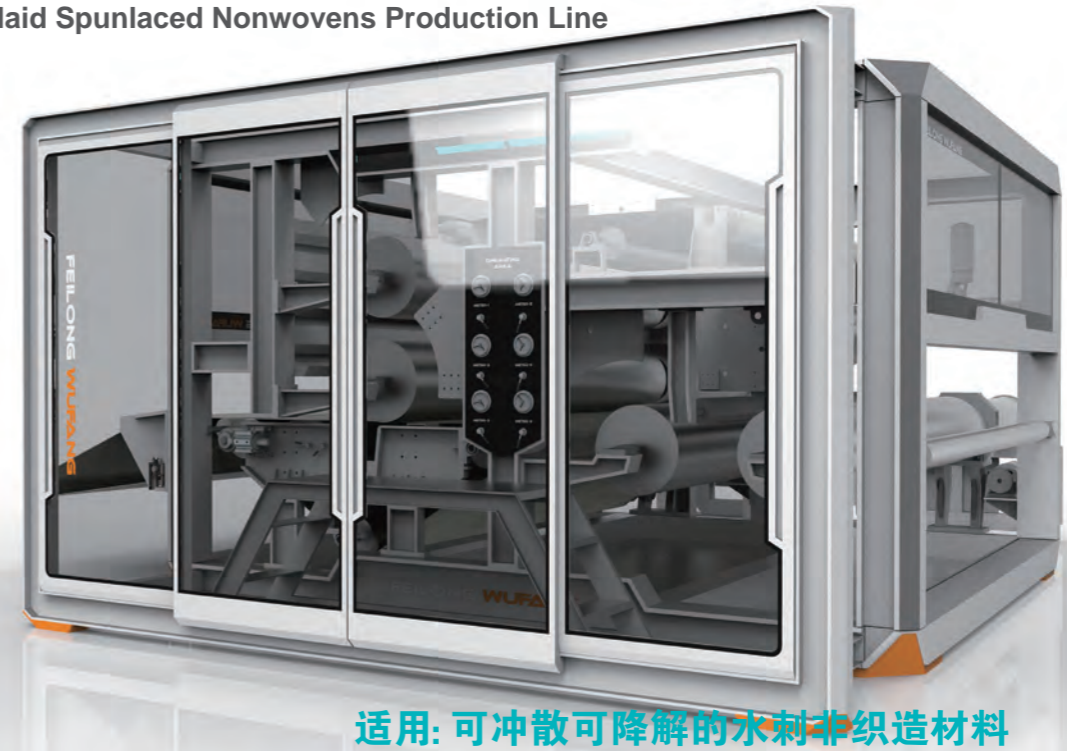
适用: 医用卫生材料, 清洁、护肤、即弃材料, 合成皮革基布材料

Applications: Production of Medical and Hygiene Material, Cleaning Material, Skincare Material, Disposable Material and Substrate for Synthetic Leather

FEILONG 飛龍

新型湿法成网水刺非织造布生产线

New Type Wetlaid Spunlaced Nonwovens Production Line



适用: 可冲散可降解的水刺非织造材料

Applications: Production of Flushable and Degradable Spunlaced Nonwovens

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▶ 2016年新款产品
Newest product



高速梳理机
High-speed carding machine

机器宽度: 2.5M, 3.0M, 3.8M
Machine width: 2.5M, 3.0M, 3.8M
出网速度: 可达120M/min
Output speed: up to 120M/min

适用范围: 针刺、水刺、热风无纺布
Application: Needle Punching, spunlace, air through fabric



热风定型机
Hot air setting machine

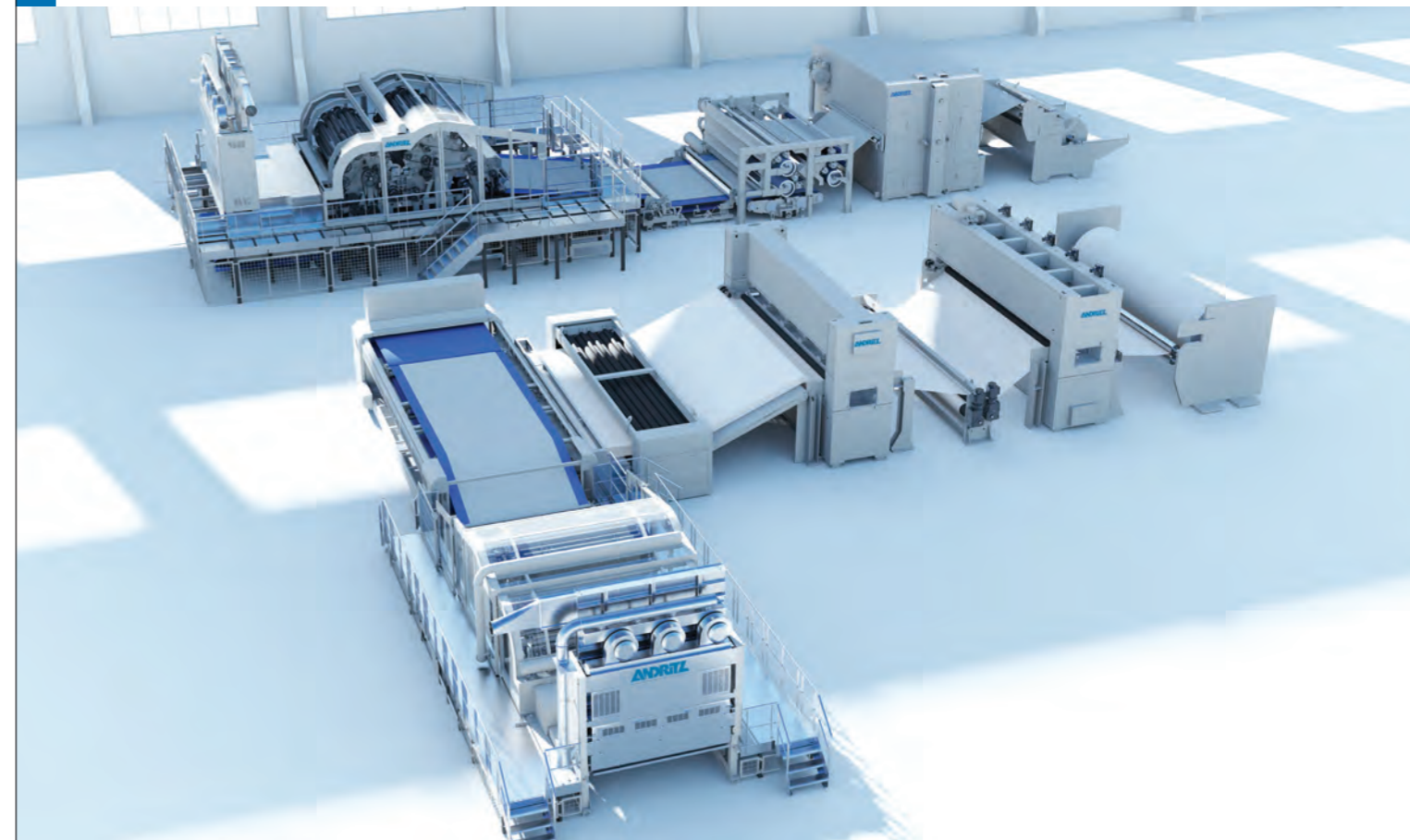
机器宽度: 2.5M, 3.2M
Machine width: 2.5M, 3.2M
有效烘区: 3M × n单元
Drying zone: 3M × n unit
生产速度: 可达120M/min
Production speed: up to 120M/min

适用范围: 热风无纺布、无胶棉、过滤棉、热熔毡
Application: Air through fabric, non adhesive mattress, filter media, thermal bonding fabric

120M新型热风无纺布生产线

A competitive edge with the aXcess range

Efficient lines for spunlace and needlepunch



Designed in Europe – Made in Jiangsu.

The new neXline spunlace and needlepunch aXcess ranges are the right solutions for nonwovens producers who want to offer large annual capacities at a competitive price level. All key

components have been tested and approved by European process experts, and the equipment is manufactured at ANDRITZ Wuxi (member of the CNITA association). ANDRITZ is the right partner for high-level technologies with

local manufacturing and spot-on services. [Team up with ANDRITZ Nonwoven at SINCE 2017, November 08-10, Shanghai, hall 1 booth 1K10.](#)

FEILONG
WUFANG



高效水刺机组
High-efficient spunlace units

机器宽幅: 2.5M、3.5M
Machine width: 2.5M, 3.5M
生产速度: 可达150M/min
Production speed: up to 150M/min

适用范围: 各种水刺无纺布
Application: all kinds of spunlace
nonwoven fabric



高速针刺机
High-speed needle loom

机器宽幅: 2.5-9M
Machine width: 2.5-9M
针刺结构: 单针区、双针区、四针区
Needle structure: single board, double
boards, four boards

针刺频率: 1200n/min、1600n/min
Needling frequency: 1200n/min, 1600n/min

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Based on more than 10 years nonwoven fabric manufacturing experience of changshu zhentai nonwoven co.,ltd and profound technics, we have been in the leading edge of nonwoven machinery field. Our main line includes of synthetic leather substrate machinery, Automotive interior decoration cloth machinery, geotex machinery, asphalt felt substrate machinery, padding machinery, hot-melt nonwoven machinery.

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Application:

Medical Isolation Gown, Disposable Underpad, Building Water-proof Breathable Film, Backsheet Lamination for Baby Diaper, Adult Diaper, Underpad, etc.

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汕头三辉无纺机械厂有限公司成立于2001年。我们一贯坚持以客户的生产工艺为主导，主要采用进口部件，精工制作，专业设计生产具有国内领先技术水平的各种高产高速针刺机、铺网机、梳理机、开清机等高端非织造机械。我们研制的高速针刺机具有不泄油、不晃动、振动微、噪音低等特点，产品获得国家多项技术专利，其中宽幅高频起绒针刺机和立体提花针刺机已接近进口同类产品的技术水平，填补了国内该类产品的空白。公司生产的非织造机械广泛引用于高档皮革基布、超纤皮革基布、土工布、鞋材、高档过滤材料、汽车内饰材料等的生产，已进入国内的高端市场，并已出口到比利时、台湾、泰国、印尼等国家和地区。



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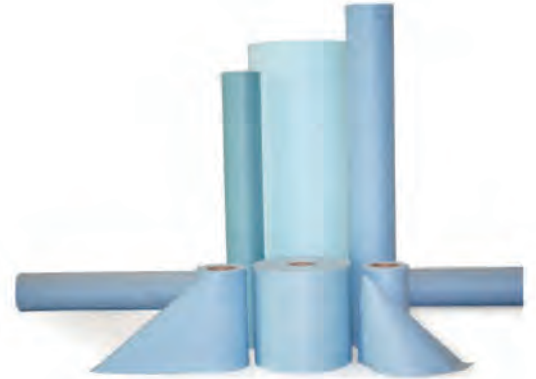
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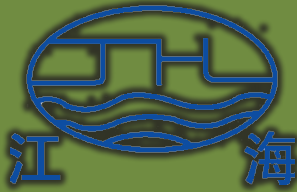
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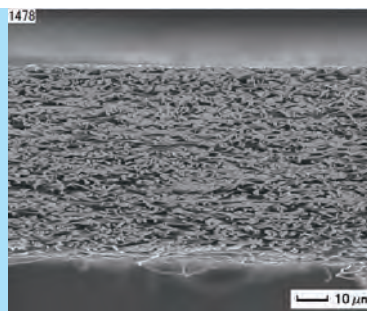
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CONTENTS

Industry News	The 17th Shanghai International Nonwovens Exhibition (SINCE) Exhibitors preview; Berry Global Group, Inc. joins the fortune 500; Japan's Unicharm fires up third Saudi diaper factory etc.	3
行业新闻	第十七届上海国际非织造材料展览会展商预览; Berry全球集团进入了财富500强; 日本尤妮佳启动沙特第三家尿片工厂等	29
Market News	Service partnership helps Northeastern Nonwovens Inc. (NNI) tailor products for customer niches; Automated machinery for hygiene products; Norafin to present industrial-based products etc.	10
市场动态	服务合作伙伴帮助东北无纺布公司 (NNI) 为客户利基市场定制产品; 卫生产品自动化设备; Norafin展示以工业为主的产品等	34
Market Trends	Demand trends of nonwovens for battery separators; Voith and Trützschler introduce new safety standard for wet-laid spunlaced nonwovens machines etc.	17
市场趋势	应用于电池隔膜的非织造布的需求趋势; 福伊特和特吕茨勒推出了新的湿法水刺非织造布设备的安全标准等	39
Area Report	2016 Taiwan nonwovens production; 2016 Indonesia nonwovens production	22
地区报告	2016年台湾非织造材料产量; 2016年印度尼西亚非织造材料产量	43
Technology News	Application of polyester Nanofiber & m-aramid staple fiber	23
技术信息	聚酯纳米纤维和聚间苯二甲酰间苯二胺 (间位芳纶PPTA) 短纤维的应用	44
Technical Trends	Airlaid market readies for new investment	26
技术趋势	干法造纸市场迎来新的投资	48
Product News	Kelheim presents new and established products etc.	28
产品集锦	Kelheim纤维公司展现了工艺成熟的新产品等	50



Reader Enquiry Form/Advertisers' List 51

读者查询表及广告商索引

Subscription Form 52

订阅表

Nonwovens Asia Magazine-Asia's Only Regional Bilingual Magazine for the Nonwovens Industry
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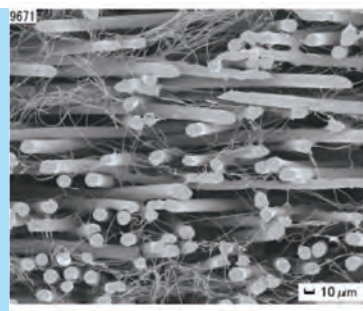
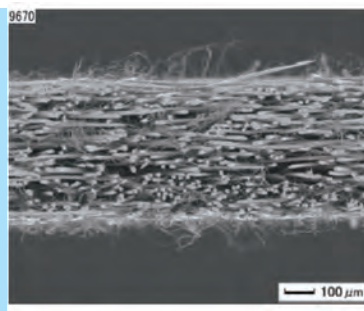
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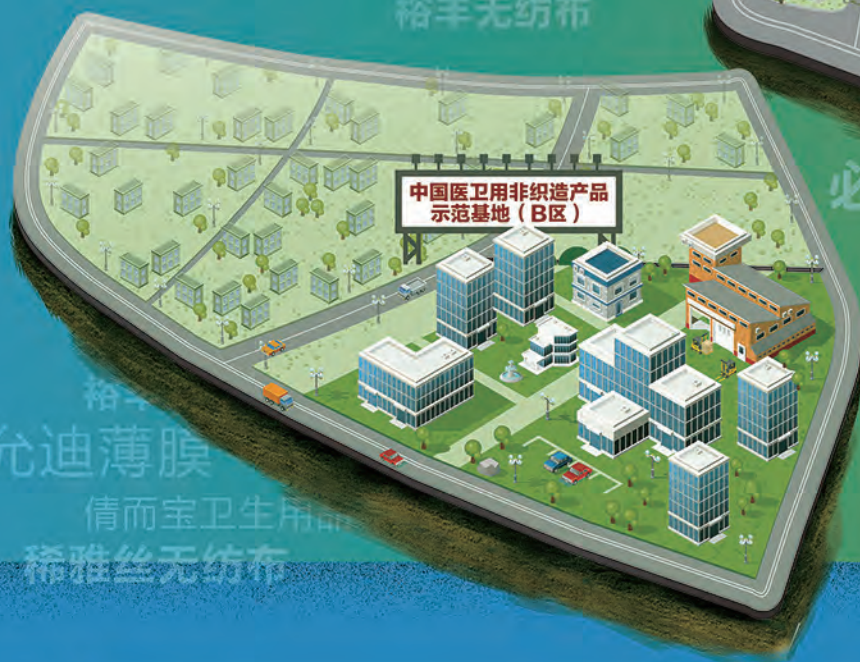
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- ◆ 龙头企业引领，共筑医卫用魔幻版图、无纺布全产业链闭环
- ◆ 功能分区明确，基础配套成熟，形成原材料、配材、成品加工、物流仓配的完整链条
- ◆ 立体跨越式深度发展，横态完善医卫用非织造产品成品下游生态链，纵态融合商贸+教育+旅游等关联产业
- ◆ 重点面向国内外医卫用非织造及纸品优质企业，同时向机械装备制造、高端工业环保滤材、汽车内饰配件等领域拓展

中国医卫用非织造产品示范基地

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网址：<http://www.nhjjw.cn>



佛山市南海区医卫用产品行业协会

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Business News

The 17th Shanghai International Nonwovens Exhibition (SINCE) Exhibitors preview

A.CELLI NONWOVENS S.p.A. 1L40
 Celli Nonwovens S.p.A. is a company specialized in winding, rewinding and packaging lines, palletizing and reel handling for nonwovens. The product range includes accessory systems such as automatic positioning systems of cutting units and automatic cutting systems for cardboard cores, unwinders and multifunctional lines with printing systems. The innovative MySp@res® system and the 24/7 post-sales assistance service complete A.Celli's offer.
www.acelli.it

ALBANY INTERNATIONAL (CHINA) CO.,LTD 1A50
 Albany International Engineered Fabrics is the world leader for Nonwoven Machine Clothing. The company manufacture a very high performance range of forming, bonding, drying or process belt to serve this industry. We also provide to customers service and expertise to Spunbond, Airlaid and Spunlace processes in order to improve production efficiency.
www.albint.com

BOOKWANG TECH CO. 1U50
 The company are a pioneer in the nonwoven machinery systems established in the year 1982 when the concept of nonwoven was still new and being accepted only in few countries and limited industries. The company are specialising in the needle punching lines and other nonwoven applications. The company produce Needle punching m/c, Cross lapper, Velour needle loom, opening m/c, cutting m/c, heating m/c, etc.
www.bktec.co.kr/eng

COSTRUZIONI ELETTRONICHE INDUSTRIAL AUTOMATISMI S.p.A. 1A25
 CEIA is a Manufacturing Company specialized in the Design, Engineering and Production of Metal Detectors. CEIA was founded when it began production of Metal Detectors for the textile industry capable of detecting small quantities of metal in fabric in order to protect the production machinery. The quality and reliability levels of CEIA equipment are recognized throughout the world by private companies and governmental institutions, who have chosen it following stringent comparative testing. This objective has

been achieved by using the most advanced technology in all phases of production. CEIA equipment has a strong reputation for reliability and maintenance-free operation. This is achieved through extensive factory testing for product conformance to strict internal standards. Detailed adherence to ISO 9001 standards also provides the traceability to support clients for many years after their equipment goes out of production. The tight tolerances employed during the factory acceptance test produce such consistent devices that field calibration is not required.
WWW.CEIA.NET

DR. SCHENK GMBH INDUSTRIEME-SSTECHNIK 2A18
 Dr. Schenk GmbH, established in 1985, is an innovative high-tech company based near Munich, Germany. Dr. Schenk develops, produces and markets optical inspection and measurement solutions for automated quality assurance and production process monitoring. This includes high-quality, customizable handling solutions. The systems are a key success factor in the making and converting of many materials, e.g. plastics, textile materials, nonwovens, paper, metal, or glass, for a multitude of markets like display glass, automotive, packaging, medical, renewable energy, and many more.

Throughout the world Dr. Schenk's 300+ employees continue to set new standards for inspection. Over 12,000 m² of modern, cleanroom-capable production and testing facilities are available to research, development and production to apply cutting-edge optics and electronics to customer applications.

Dr. Schenk offers extensive from-lab-to-fab knowledge. Customers benefit from our expertise in the translation of lab applications to large scale productions.
www.drschenk.com

EDELMANN TECHNOLOGY GMBH & CO. KG 1P01
 Fully automatic In-line winders for up to 1,000 m/min. winding and slitting speed, up to 6.00m winding width and 2.40m finished roll diameter. Off-line winding and slitting lines for throughput of 1,500m/min. and beyond. High-performance rewinding-slitting

Business News

machines, nonwoven roll+winding shaft handling systems, cardboard tube cutters, longitudinal slitting device with autom. knife positioning systems. Spunlace fibre recovery systems. Packaging systems for nonwoven rolls designed to requirements and fully integrated into control systems of the winders and slitters.

www.edelmann-technology.com

EMTEC ELECTRONIC GMBH 1V21

Since 1995, emtec Electronic develops, manufactures and distributes advanced testing devices for the Pulp & Paper as well as the Nonwoven Industry. The emtec measuring devices are now used in more than 80 countries in laboratory and production. Customers are additionally supported by its sales network of about 30 representatives.

The main target of emtec Electronic is to find innovative solutions for the process optimization, quality assurance and product development, helping the customers to improve the quality of their products as well as reducing costs and complaints. To find these innovative solutions, emtec is in a very good and close contact to customers from the industry. For example, its TSA Nonwovens Softness Analyzer has been developed based on customers' needs and is now unique in the market."

www.emtec-electronic.de

LENZING AG 1N01

The Lenzing Group is a world market leader of cellulosic fiber headquartered in Austria. Lenzing supplies the global textile and nonwovens industry with high-quality botanic cellulose fibers from viscose to TENCEL® brand lyocell fiber.

The success of the Lenzing Group is based on its consistent customer orientation together with its leadership in innovation, technology and quality. Lenzing is committed to the principles of sustainable management and very high environmental standards.

www.lenzing-fibers.com

MOGUL TEKSTIL SANAYI VE TICARET A.S 1J01

Spunbond, Meltblown, and SMS production in Turkey. Mogul is ranked global top 40 nonwovens company by INDA, with 4 manufacturing facilities in Turkey and USA, and is among top 1000 companies in Turkey for both export sales and total turnover.

Mogul is exporting majority of its capacity to more than 40 countries in 4 continents on a global basis, with consistent quality, competitive price, and satisfactory service. More information can be found at website: www.mogulsb.com and contact us at mogul@mogulsb.com. www.mogulsb.com

NEXT GENERATION RECYCLING-MASCHINEN GMBH 1J08

NGR produces customized recycling solutions to realize zero-scrap production for the plastics industry or high-quality pellets out of post-consumer plastic waste.

With its new LSP-technology PET-material is leaving the recycling process in better condition compared to the raw material (= upcycling).

With smart machine connections NGR increases efficiency and quality (Self-Monitoring, Analysis and Reporting Technology): machine performance and pellets quality can be monitored and analyzed consistently in real time.

Thanks to modern customer care centers in Europe, USA and China, NGR is never far from its clients. NGR is part of the strong network NEXT GENERATION GROUP (Collin, BritAS, NGR). www.ngr.at

OERLIKON (CHINA) TECHNOLOGY CO.,LTD. 1H20

Oerlikon Nonwoven, as an engineering specialist, offers process solutions for the efficient production of spunbond nonwoven as well as meltblown and airlaid nonwoven. The business unit is part of the Oerlikon Manmade Fibers segment, the world market leader for filament spinning systems used for manufacturing manmade fibers, texturing machines, BCF systems, staple fiber spinning systems and artificial turf systems.

www.oerlikon.com/manmade-fibers

PSA TECHNOLOGY GMBH 1P01

PSA Technology is one of the world's leading manufacturers of winders and slitter rewinders. True to our motto "Your slitter rewriter perfectly designed" we have been searching for improvements and innovations

Business News

right from the start to make our customers ready for up-coming market changes. The company team of experts as well as the remarkable high in-house manufacturing allows us to design, to develop and to build state of the art machines. Our constantly growing business and satisfied customers around the world proofs us as a competent Partner in winding.

www.psa-technology.com

TECHNICAL ABSORBENTS LTD. 2C01

Technical Absorbents manufacture SAF™ (Super Absorbent Fibre). The company produce a number of different grades that vary by staple length, decitex, absorbency and retention. The company also design and manufacture a large portfolio of SAF™ superabsorbent nonwoven fabrics and yarns. The company can supply these directly or via one of our toll converters. Over the years the company have carved a unique position for ourselves as a superabsorbents solutions provider and our technology, in one form or another, is used in a variety of applications across numerous market sectors.

www.techabsorbents.com

TESTEX SWISS TEXTILE TESTING LTD.

2A23

TESTEX is an independent Swiss testing and certification organisation operating worldwide with the focus on textile testing. In addition to its headquarters in Zurich (Switzerland), TESTEX has twelve other branch offices. TESTEX has been testing, analysing and certifying with the focus on the textile sector since 1846. The long-established company has become highly regarded, initially in Europe and subsequently also worldwide, for its high-quality services, its independence and its innovative energy. Our services: Testing textile physics and textile chemistry, Analytical tests Since 1993 TESTEX and 15 other OEKO-TEX® member institutes have systematically supported companies in the textile industry in more than 60 countries worldwide with independent certifications and services to implement greater sustainability and product responsibility along the global textile value chain. OEKO-TEX® BRAND: STANDARD 100 by OEKO-TEX®, STeP by OEKO-TEX®, MADE IN GREEN by OEKO-TEX®, LEATHER STANDARD by OEKO-TEX®, ECO PASSPORT by OEKO-TEX®, DETOX TO ZERO by OEKO-TEX®

www.testex.com

USTER TECHNOLOGIES AG

1B53

Uster Technologies is the global leader in textile testing and quality control. Its testing and monitoring instruments and systems set the standards for innovative, easy-to-use technology. They optimize processing and provide assured product quality throughout the textile chain. Expert consultancy and training services from USTER are founded on the same principles, underpinned by 70 years of know-how. Today, the 'Think Quality' slogan sums up the company philosophy and its commitment to customers. Uster Technologies is headquartered in Uster, Switzerland, with a worldwide sales and service network and strategically-located Technology Centers in Switzerland, the USA and China.

www.uster.com

J.H. ZIEGLER NONWOVES AND NEW MATERIALS (HUZHOU) CO.LTD 1W02

With the expertise gained from 150 years of experience, The company develop new ideas and materials together with our customers. State-of-the-art manufacturing and individual solutions lead to the common goal. The company range of needle-punched nonwovens, foam nonwovens composites, laminated nonwovens and natural-fiber nonwovens covers both familiar and also new and unusual fields of application. This product range is supplemented by further processing steps, which the company implement according to customer specification, e.g. on our own CAD-controlled cutter or our punching-lines

www.ziegler.eu

ANDRITZ to supply a complete needlepunch line to Autoneum, Mexico

Graz, July 24, 2017. ANDRITZ has received an order from Autoneum, headquartered in Winterthur, Switzerland, to supply an ANDRITZ neXline needlepunch eXcelle line to its plant in San Luis Potosi, Mexico, for the production of needlepunched velour felts from 300 to 900 gsm for the automotive market. The fabrics will be used for manufacture of carpet systems, inner dashes, and floor insulators. Start-up of the line, which has a working width of 4.4.m, is scheduled for the end of 2017.

The scope of supply includes a Dynamic eXcelle card and a crosslapper in combination



ANDRITZ high-capacity neXline needlepunch eXcelle for production of nonwoven technical felts



Autoneum's Di-Light based nonwoven carpet

with ANDRITZ technology for drafting and needling. ANDRITZ will also supply the process control equipment as well as the unique, closed-loop ProDyn system, thus providing continuous web monitoring and optimization of the end product. With a maximum speed of 20 m/m, the production capacity of the ANDRITZ needlepunch line will be up to 1,100 kg/hr.

This order once again demonstrates the strong and long-term partnership between ANDRITZ and Autoneum. Autoneum already operates several ANDRITZ lines in Bloomsburg, PA, and Jeffersonville, IN, both USA, as well as several lines in Europe.

Autoneum is the global market and technology leader in acoustic and thermal management solutions for vehicles. Based on its own expertise and technological know-how, Autoneum develops and produces systems and components for leading automobile manufacturers. Its customers are present in the key markets of Europe, North America, South America, and Asia. Autoneum is represented at around 50 locations in over 20 countries and has a workforce of more than 11,000 employees worldwide.

For further information, please contact:

Michael Buchbauer
Head of Corporate Communications
michael.buchbauer@andritz.com
www.andritz.com

Ahlstrom-Munksjö invests in Turin plant

Ahlstrom-Munksjö will release additional capacity at its Turin plant in Italy to meet the growing demand for engine and industrial filtration media.

Fulvio Capussotti, executive vice president of Business Area Filtration and Performance, states: "This capacity increase aims at improving our current service level but also, more strategically, enables us to offer to our customer an industrial platform on which they can build on to further grow their business. The plan will include investments on selected assets, reorganization of planning practices and additional staffing. This capacity release will be concluded at the beginning of 2018 and will significantly increase our ability to answer the current and future needs of

our filtration customers."

The Turin plant is located in the Northern part of Italy, employs around 550 people and manufactures both filtration media and release papers for silicone coating.

The investment for increased capacity is included in the estimate for capital expenditure in 2017, as communicated in Ahlstrom-Munksjö's half-year report, published on July 25, 2017.

(Source from: "www.convertguide.de")

Berry Global Group, Inc. joins the fortune 500

EVANSVILLE, Ind.--(BUSINESS WIRE)--Jun. 13, 2017-- Berry Global Group, Inc. (NYSE: BERY), a leading global manufacturer and marketer of innovative engineered materials, nonwoven specialty materials and consumer packaging, today announced that it has joined the Fortune 500, Fortune Magazine's ranking of America's largest companies. Berry is ranked at number 413, with \$6.5 billion in revenues in fiscal 2016. The Company becomes the 6th largest Indiana headquartered company in Fortune Magazine's ranking.

"These are exciting times at Berry and this is yet another milestone in our rich history. We have evolved from one manufacturing location in Evansville, Indiana, to 131 facilities across the globe with more than 23,000 employees. Additionally, Berry has made tremendous progress since becoming a public company in October 2012 as we've delivered strong financial performance and our share price has more than tripled, outperforming our peers as well as the S&P 500. Our sound business model and market leadership positions allow us to continue to protect what's important to our customers, shareholders, and employees," stated Tom Salmon, CEO of Berry.

(Source from: "www.berryglobal.com")

Elmarco Nanospider™ Electrospinning technology

NS Production Line NS 8S1600U

• System

The Nanospider™ NS 8S1600U is our base module for nanofiber production in high volume. It is designed for ease of

Business News

use, scalability, modularity and flexibility in producing the highest quality nanofibers. The NS 8S1600U is a modular spinning unit configured with 1,6 meters wide spinning electrodes. Up to four NS 8S1600U units can be combined to a nanofiber production line able to produce tens of million square meters of coated material annually.

• Flexibility

Elmarco's nanofiber production equipment can be configured to work with a wide variety of polymers and to produce a wide range of organic and biodegradable nanofibers. Depending on the polymer used, fiber diameters from 80 nm up to 700 nm (+/-30 %) are possible. In addition, the NS 8S1600U is designed to accommodate various types of substrate materials.

• Main features

	NS 8S1600U
Number of electrodes per unit:	8
Max. number of units in line:	4
Spinning electrode width:	1600 mm
Effective width of nanofiber layer:	1600 mm
Exhaust ventilation:	2500 m ³ /hour
Spinning distance:	150 - 250 mm

• Operating parameters

Operating staff required:	1,5
Substrate speed:	0,2 - 40,0 m/min
Working temperature:	20 - 30°C
Working humidity (RH):	20 - 40°C
Start-up time:	max. 20 min
Regular maintenance:	15 hours/month

(Source from: "elmarco.com")

PEGAS NONWOVENS has signed a Memorandum of Understanding and confirmed its interest in the purchase of a Reicofil line for the production plant in the Republic of South Africa

3 April 2017 – PEGAS NONWOVENS SA (hereinafter "PEGAS" or "Company") has signed a Memorandum of Understanding with the supplier of production technology REIFENHÄUSER REICOFIL GmbH & Co. KG in which it confirmed its intention to order a new production line for the future production plant in South Africa.

The subject of this agreement is the confirmation of intention of both parties

to conclude a contract for the delivery of a Reicofil production line model S-TwinMB-S 2600 RF4s Compact BiCo for the Company's future production plant in South Africa. The conclusion of the final contract for the delivery of the production line is expected in July 2017.

"Concluding an agreement with the production technology supplier is a further step along the road to the realisation of our plan to build a new production plant in South Africa. For this new location, we want to order the most modern production line based on the COMPACT concept in a BiCo configuration, which will enable us to bring technologically advanced materials to the local market. The installation of a similar production line, the first of its kind in the world, is currently being completed in the Czech Republic. I firmly believe that this production line will indeed prove its qualities in real operating conditions, and we will subsequently take full advantage of this in South Africa," said František Řezáč CEO of PEGAS NONWOVENS s.r.o. and member of the Board of Directors of PEGAS NONWOVENS S.A.

(Source from: "www.pegas.cz")

DiloGroup at INDEX

International nonwoven producers meet again in Geneva, Switzerland, from April 4 – 7, 2017 on the occasion of the INDEX exhibition. DiloGroup will inform in detail about its machine program from fibre preparation to finished needlefelt. DiloGroup with its units DiloSpinnbau, DiloTemafa, DiloMachines and DiloSystems offers tailor-made production lines from one supplier for almost all applications.

DiloTemafa offers new possibilities for the gentle opening of longer fibres at high throughput speeds using several opening stages.

The VectorQuadroCard by DiloSpinnbau, first presented at the ITMA 2015 show in Milan, Italy, combines different types of card within one card by a simple and fast changeover of the intermediate section. The newly designed delivery system is also flexible to allow the production of parallel, random or condensed webs. The new card feeding system Unifeed that combines the principles of a volumetric

Business News

system allowing fine dosing with the advantages of an open vibration chute feed is also adapted to this new card.



VectorQuadroCard by DiloSpinnbau

The newly presented horizontal crosslayer DLSC 200 from DiloMachines sets new standards in crosslapping technology with an electro-mechanical web infeed speed of 200 m/min depending on the fibres used.



Horizontal crosslayer DLSC 200 by DiloMachines

The new needle module technique of DiloMachines embeds 22 needles in a plastic support and is used in needle boards with very high needle density. These modules result in a fast and precise filling of needle boards. They are used in Variopunch needling technology where bad spots in stitch distribution are eliminated by variable needle arrangements thus creating a more homogeneous and higher surface quality. This needle module technology was first used in the compact line presented on the ITMA 2015 in Milan, Italy.

This compact line is designed for the production of high quality needlefelts from special fibres such as carbon. It completes our portfolio that includes not only small production lines for laboratories and large needling lines for papermachine felts but all machines for the production of needlefelts from staple fibres.

DiloGroup has delivered more than 300 production lines to the nonwovens industry worldwide and thus has the required know-how and a complete range of machines to supply the optimum production line for your requirements. These highly modern and innovative.

production lines are the result of continuous engineering development work and steady product development in our own textile research centres.

(Source from: "www.dilo.de")

Japan's Unicharm fires up third Saudi diaper factory

New plant may double capacity in Middle Eastern state

TOKYO -- Japanese diaper maker Unicharm took a major step toward developing the Middle Eastern market by opening its third plant in Saudi Arabia.

The new factory, next to another manufacturing center in Riyadh, apparently cost a few billion yen (1 billion yen equals \$9.18 million). Along with diapers, the installation will produce sanitary products.

Although the plant's production capabilities have not been publicized, the new facilities are larger than those at Unicharm's other two Saudi factories. This suggests that the company has secured the space needed to implement its plan to eventually double output capacity in the kingdom. Unicharm converted Gulf Hygienic Industries, a local manufacturer of infant diapers, into a subsidiary in 2005. Five years later, the unit started its second factory.

The market for diapers in the Middle East is growing rapidly along with the population. Unicharm's sales in the region appear to have risen by double digits in fiscal 2016. The Japanese multinational also opened a diaper factory in Egypt in 2012.

(Source from: "https://asia.nikkei.com")

Oji expands sales of baby diapers to Vietnam, Cambodia

Japanese paper company's Malaysian plant to supply four Southeast Asian markets



Compact Line by DiloGroup

Business News

Oji Holdings will start selling disposable diapers for babies in Vietnam and Cambodia, the Japanese paper company's latest effort to expand its Southeast Asian footprint.

An Oji diaper plant in Malaysia that opened in spring 2016 will supply the two new markets. The plant, which produces the Genki brand of underwear-type diapers, already serves Malaysia and Myanmar.

Vietnam's sharply growing diaper market has fewer competitors compared with Malaysia and elsewhere. DSG International controls more than 20% of the Malaysian market, while Japanese rival Unicharm has a 40-50% share in Thailand and Indonesia.

The disposable-diaper market in Vietnam is seen growing 140% from 2016 to \$974 million in 2021, according to British research company Euromonitor. Myanmar's market is expected to expand 30% over the same period, to \$97 million.

To cement its presence in these growing markets, Oji will unleash major sales promotions via television commercials in Southeast Asia to boost recognition of the Genki brand. The company will market the diapers by touting their feel and high level of absorption.

Oji aims to sell 100 million disposable diapers in the four countries this year. It will consider exporting to India and the Philippines and expanding the Malaysian plant.
(Source from: "https://asia.nikkei.com")

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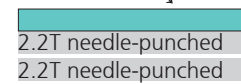
- Long life: 2 years more
PTFE weak point is less break durability due to very thin membrane

Concept

PET nano sheet laminate

- 1) Utilizing nano fiber → High efficiency
- 2) High porosity structure Sheet → Low pressure loss
- 3) Thick Dust collect layer → Improvement of Break Durability

PET Nano fiber Sheet



m-Aramid staple fiber Teijin Conex®

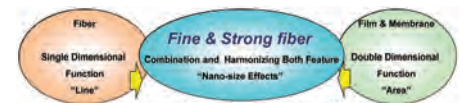
1) Microfiber Teijin Conex®: Microfibers are useful for functional non-woven

Dtex (diameter)	0.5T (6.5µm)	0.9T (9µm)	2.2T (14µm)
Sheets Surface			
Sheet Cross section			
Needle-punch Non-woven Cross section			

Development & Business in future

Teijin provide various Solution about Environmental-Care & Energy-Saving by state of the art Technology of

- Thin Fiber Producing by Nano-Technology
- Processing & Structure Design
- Performance Evaluation & Analysis



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

<<< continue 27

airlaid business. In 2013, Duni said it would exit the hygiene business but remain involved in tabletop. After failing to find a buyer for its hygiene-focused airlaid line, Duni announced in September 2014 that it would move this line from Das Långed to Skåpafors and convert it to handle tabletop applications. The Das Långed site was ultimately closed.

Asia, meanwhile, is a mixed market for airlaid nonwovens. There are older lines in Japan, China and Taiwan which are small and relatively slow, but meet local needs, according to Smithers Pira. Utilization today is about 90%, with hygiene being the largest end use. The report adds that there is a real need for airlaid expansion in Asia, which is the fastest growing major region at 8% annual growth for 2015-2020.

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

Market News

Service partnership helps Northeastern Nonwovens Inc. (NNI) tailor products for customer niches

Initially, it was seen as a cost that could be avoided. But this niche-focused producer of nonwovens discovered that the difference between “price” and “value” when buying parts and services from an OEM could be a competitive advantage – and makes good business sense.

Northeastern Nonwovens, Inc. (NNI) manufactures engineered nonwoven fabrics and composite materials at its plant in Rochester, NH, USA. NNI’s quality systems (ISO 9001:2008 certified) are in place for its two high-speed needlepunch lines, its mechanical and thermal finishing processes, and its custom slitting operation.

The ability of NNI to provide custom fiber blending and multi-layer composite constructions have helped it fulfill its strategy to be a “niche player” and “swim between the big fish,” according to its President, Todd Kingsbury. As with all niche-serving manufacturers, NNI’s success is built on understanding the unique requirements of each customer in terms of quality, commercial aspects, unique compositions, deliveries, turnarounds, and technical support – and then delivering consistently each time.



Todd Kingsbury, President of Northeastern Nonwovens, Inc.

“We are not the biggest and don’t intend to be,” Kingsbury says. “We want to tailor-make our products to satisfy demanding applications where value-added is appreciated and not everyone has the capabilities to compete.”

Sales reliability starts with production

reliability

Kingsbury came to NNI in 2013. His background is in manufacturing and operations. He was part-owner of a nonwovens producer in the early 2000’s, which was eventually sold to a major corporation. “Our products were designed for high-temperature applications, primarily for electrical insulation and solar power,” he says. “But we also produced nonwovens for filtration, which is an industry we serve here at NNI.”

When Kingsbury was recruited to NNI, he was told that his main focus should be in expanding the customer base and selling into new markets. “There was not much discussion about operations at that time,” he recalls. “We needed sales, for sure. But we were limited in how much we could sell due to repeated breakdowns in the lines. I don’t think there was a week that went by where we didn’t have unplanned downtime.”

Two lines

Perhaps a note about the two production lines at Northeastern. The two Asselin-Thibeau (now ANDRITZ Nonwoven) production lines were not new. They had been acquired from two different nonwovens mills that had faced financial difficulties.

The Asselin-Thibeau pedigree is well recognized. The ancestry can be traced to France and the years 1912 (for Thibeau) and 1920 (for Asselin). Thibeau sold its first crosslapper in 1956 and its first needleloom in 1958. The two companies merged in 2005, and this merged company was acquired by ANDRITZ, an Austrian-based global supplier, in 2011.



Nonwovens web prior to the first needlepunch station at NNI.

The two lines are quite similar, with the exception of width. They consist of the traditional process steps of fiber blending/

Market News

feeding, carding, crosslapping, drafting, integrated needle punching, and winding. Off-machine stations for mechanical finishing (calendering, heat setting, pressing, glazing, laminating, true-flame singeing, and custom slitting) allow NNI to basically custom-build fabrics.

“Weights up to 2060 gsm and widths up to 4.725 m can all be accommodated,” Jason Dills, Production Coordinator, explains. “We are virtually unlimited in fabric thickness, fiber combinations, and density options within our weight range.”

First: a change in mindset

Since its acquisition by Metapoint Partners in early 2005, NNI has benefited from some significant investments in engineering and technical resources, the consolidation of operations in a new factory in Rochester, ISO certification, and the launch of several new product lines. But like most small niche companies, operating capital was tight.

“Before I came on board, the management directive was to buy based on price and speed,” Kingsbury says. “This was driven into our maintenance mindset. Parts were sourced at the lowest price. We took shortcuts to get the machinery running again. We patched things instead of actually fixing them. Over time, this took its toll on the equipment.”

“There was nothing basically wrong with the equipment design or line capabilities,” Dill says, “But with 20-year-old equipment, it was often difficult to source spare parts. There were many times we searched eBay. OEMs like ANDRITZ weren’t even invited to bid because it was assumed that their price would be too high anyway.”

Anthony Laforge, Area Service Sales Manager for ANDRITZ Nonwoven in the USA, has seen this mindset before and fully understands it. “There are a lot of factors to consider when evaluating price,” he says. “Some customers naturally assume our price will be higher. I think it is up to us to provide customers with the complete story – to help them understand value as well as initial price.

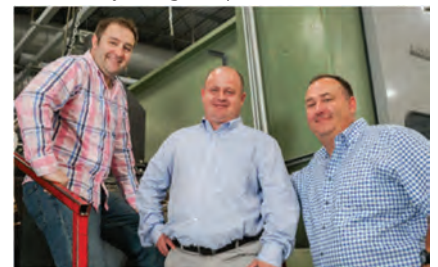
For example, our replacement part and a Brand X replicated part may look identical. They are both metal and have the same shape, but that is usually where the similarity ends. Our part has been engineered to do a particular task. It has a specific metallurgy specification and is machined to a precision tolerance. It is finished in a specific way, and the quality is checked properly.

Plus, our part is backed by a team of specialists who can answer questions and give guidance. We had tried to make this case with NNI prior to Todd’s arrival, but were not very successful. When he came on board, things changed.”

A step-by-step plan to improve reliability

One of Kingsbury’s first actions was to bring in an “old-timer” he had worked with in the past as his maintenance consultant. The man poured his heart and soul into helping assemble a new maintenance team. “Collectively, we went through our equipment piece by piece, identifying reliability issues and prioritizing the maintenance work, based on the time, money, and skills available,” Kingsbury says.

With new people on the team, there was hope for a new approach to working with ANDRITZ, one of NNI’s major OEM suppliers. As Dill explains, “We empowered our team to look beyond just the price and consider total value. We analyzed the value of avoiding machine downtime that occurred from ‘saving’ a little money by buying inferior parts and not fully fixing the problem.”



Jason Dill (left), Production coordinator of NNI, with Anthony Laforge, ANDRITZ Nonwoven (center), and Todd Kingsbury, President of NNI.

With competent maintenance people on the inside who could support an OEM in a good way, NNI contacted Laforge at ANDRITZ. “ANDRITZ knew our equipment intimately - that was never in question,” Dill says. “What we didn’t know was how eager they would

Market News

be to work with us since we were a small niche player. It was a bit of a surprise how eager they were to answer our questions when we had a problem and also recommend upgrades that would improve reliability and performance. As time went on, we began to see them as partners with complementary skills, not as outsiders or adversaries."

First test could have been the last

With only two lines in operation, scheduling a shutdown for an upgrade is a big deal at NNI. "When a line goes down, we are basically at half production," Dill says. "That is why, when we finally took the plunge to use ANDRITZ for upgrading our smaller line, we knew that limiting downtime was critical."

The project was to upgrade the electronics on a unique double-punch machine with up-to-date ANDRITZ controls and logic. The uptime of the line was suffering due to small failures and bugs from the worn-out components. NNI solicited quotations from a couple of local companies as well as ANDRITZ.

"ANDRITZ was not the cheapest, but it also was not the most expensive," Dill recalls. "The thing that tipped the project in their favor was their promise that they would not leave our site until everything was running. We were skeptical of that, figuring that once they hit their man-hour estimate, they would be on the next plane out of here."

That first upgrade project, while successful, did not go as smoothly as planned. Shipments of key components from France were delayed due to external reasons, which caused the schedule to slip. "This was a moment of great stress for me," Laforge says. "Here, I had been calling on this plant for years asking for a chance to show what we could do. And now, we were falling behind and there were some glitches. Thankfully, Jason, Todd, and the team were patient in working through the issues.

In all fairness, we needed more support from ANDRITZ than we thought we did," Dill says. "We didn't know everything that had been done to the machinery before we acquired it, and most of our previous patches were not documented. So, in many ways it was not

a standard line. It took more hand-holding from ANDRITZ's side to get us back up and running and it took longer than any of us wanted."

"Todd and his team were very open with us and made their concerns known," says Alexander Butte, General Manager of ANDRITZ Nonwovens in North America. "They had a full schedule to keep and could not operate profitably without both lines running at full production. We made adjustments together and we were able to solve the problems. They had decided going in that we would be partners, without the traditional supplier-customer walls between us, and it paid off."

Better than planned

"Both of our companies learned a lot from that experience," Kingsbury says. "The two upgrades that we performed after that, which were much more complex and expensive projects, went significantly better than planned."

The second major opportunity to work together was an upgrade to the electronics and drive units for a crosslapper. It was completed in October 2016. "We have two similar crosslappers," Dill says. "Spare parts are virtually impossible to find now. So ANDRITZ suggested upgrading one of the units and using the parts to keep the other one running until we had the capital to upgrade it. It has saved us working capital and was a good solution."

ANDRITZ estimated seven days to do all the work on the upgrade. "This time, we were well prepped on our side," Dill says. "After four days, ANDRITZ had completed the upgrade, started up the line, made sure it was running well, and we were done. We haven't had an unplanned outage since."

The most recent upgrade of electronics and motors was performed on the needleloom in February 2017. "There were a lot of considerations on our side about location of equipment, positioning, etc.," Kingsbury says. "We wanted to make sure that the instant that ANDRITZ arrived, they could start working. Shipments arrived perfectly on time,

Market News

and the work progressed well.”

Unique capabilities

“Though our equipment is not the newest, we are unique in some of the products we can make here,” Kingsbury says. “From our side, the partnership with ANDRITZ is aimed at fine-tuning and upgrading our equipment to be top-tier so we can expand into other value-added markets. The partnership has grown over time.”



Pete Crossman, a line assistant at NNI, inspects product as it is being wound up

Some of the more interesting products are for the composites industry using PET, PP, e-Glass, carbon, and aramid fibers; a fire-resistant composite that goes into automotive, truck, and bus seating; phenolic resin-saturated polyester filter media for removing particles from automatic transmissions and other aggressive fluid streams; and a multi-layer composite that is latex saturated for engine air intake filtration.

“Our lines are considerably more reliable today than they were when I came here about four years ago, and we have capabilities to produce high-temperature and chemical-resistant nonwovens that we didn’t have before,” Kingsbury says. “We need ANDRITZ and we need their people. We have very good and smart people here, but not enough of them. There are technical issues for which we just don’t have the resources in-house to address properly. We are too small a business not to have a technical and service partner.”

Achieving goals with adhesives

Bostik, a leading global adhesive specialist for industrial, construction and consumer markets, will use interactive display stations to showcase its Smart@work adhesive technology and expertise.

Fit, absorption, softness and odour are key dynamics to manufacturers of disposable hygiene products. Bostik will demonstrate how adhesive products and process expertise can help disposable hygiene producers create better products more efficiently.

“We believe creating an interactive experience will engage our customers in discussions of how Bostik can help them achieve their goals. This is a clear focus of Bostik and an area where we believe our global knowledge and almost 50 years of disposable hygiene experience can really add value to our customers,” said Diane Toonen, global director of strategic marketing for Bostik’s Global Nonwoven Division.

Darius Deak, global R&D director of the Global Nonwoven Division of Bostik, will also deliver a presentation on Brilliance a “world first” in adhesive products. (Source from: “INDEX 17”)

Automated machinery for hygiene products

Cellulose Converting Solutions (CCS) is an Italian company which develops and designs highly automated machinery for the manufacturing of disposable hygiene products. Some of the highlights of the CCS portfolio will be presented.

In the adult incontinence segment, CCS offers the following:

- Consolidated adult pant converter with cross-direction process (two-piece or three-piece product structure) at a guaranteed speed of 300 rpm
- Consolidated adult brief converter with “zero” trim shaped panels or “low” trim shaped panels with same front and back material or with different front and back material, at a guaranteed speed of 350 rpm
- All the latest types of elastics features for adult pants and adult briefs
- Thinner products with a significant reduction of pulp
- Unique single wrap packaging.

In the bed underpad segment, CCS offers a premium tier underpad converter guaranteed at 400 rpm or 300 m/min with a capability of 36 g/m² and higher capacity fluff mill up to 1,700 kg/hour (treated or untreated pulp). In the baby diapers and training pants category,

Market News

CCS presents:

- Baby training pant cross-direction converter
- Sky Line converter for up to 800 rpm or 400 m/min for open type diapers and more
- Symmetric back panels 'zero' trim for open type diapers/asymmetric back panels with "low" trim for open type diapers
- Pad formation designed for high SAP/fluff ratios (both in 3D/2D shaped/flat configurations)
- Single wrap packaging
- Pulp elimination with a new generation core.

In the sanitary napkin and light incontinence segment, CCS offers:

- A new light incontinence converter with higher performances, both in the airlaid and fluff configuration with a guaranteed speed of 1,000 rpm or 300 m/min
 - A new high speed sanitary napkin line at 1,500 rpm or 350m/min and much more.
- The configurations obtainable with this HS converter are as follows: fluff core converter, airlaid core converter or "flex" converter able to manufacture both fluff and airlaid versions.

According to CCS, "our customers are our partners". This means that dedicated audits to machines are being performed to increase efficiency, while dedicated machine training and technical support is being provided to all its customers/partners; and upgrades and rebuild operations are being performed independently on CCS or competitors' machines.

On the R&D side, CCS is already leveraging on breakthrough technology it has developed in collaboration with Alcatara for reapplication of aerospace technology for in-line detection of superabsorbent polymers inside the absorbent structure. The technology has been redesigned to a nano design sensor to be installed on the manufacturing line. According to CCS, it would be possible to get an instant qualitative and quantitative assessment of superabsorbent applications. A demo will be presented during the show with real diaper core products.
(Source from: "INDEX 17")

Norafin to present industrial-based products

At this year's INDEX™ trade show. Norafin,

an innovative provider of solutions in the field of technical nonwovens, will be presenting its expanded range of products for industrial applications, as well as for use in the hygiene and medical fields.

Items in the company's product range include materials with an area density starting at 16 g/m², increasing to 800 g/m². The nonwovens are available in different colours and are made from various polymers and natural fibres.

For hygiene and medical use, nonwovens with varying patterns which allow for improved absorbency, are available. Norafin Komanda, the company's range of Heat-resistant nonwovens for protective wear, has been completed with materials for work wear.

Furthermore, Norafin has ventured into flax fibre processing and introduced the material into its hydroentangling process. Thanks to their UV resistance, positive eco-balance and natural aspect, flax fibres can be used in the home furnishing market as, for example, wallcoverings. Due to its natural components, the flax wallcovering, which consists of flax and viscose fibres, creates a good indoor climate, supports the individual well-being factor through its insulating properties, and is compostable at the end of its lifecycle.
(Source from: "INDEX 17")

Tenowo Inc. Celebrates Grand Opening of new building and production line

May 16, 2017 - On March 23, 2017, Tenowo Inc., a Hoftex Group AG business and manufacturer of engineered nonwovens, celebrated the grand opening of its expanded plant in the Indian Creek Industrial Park in Lincolnton, N.C. The expansion involved the addition of a new 70,000 square foot building and the installation of a new production line.

The Lincolnton facility was founded in 1992 and is a leading producer of decorative and functional nonwovens for the automotive, industrial and apparel industries. The latest expansion involved a total investment of \$10 million and is the fourth at this location

Market News

since 2009. Overall, Tenowo has invested \$20 million in the expansion of existing production capabilities and the installation of new manufacturing technologies.

The new production line involved the transfer of Tenowo's unique Multiknit technology from Germany to the United States and is the only production capability of its kind in North America. Multiknit products are primarily used in automotive seating applications and offer several advantages over conventional products, including enhanced breathability and improved temperature regulation.

"Our parent company, Hoftex Group AG, continues to invest in the site and support our growth," said Chris Peart, president and CEO, Tenowo Inc. "The Board of Directors of Tenowo Inc. and our ownership believe in the team here in Lincolnton and that is a powerful motivator. They also believe in the institutions of this area and their ability to support us. In particular, the support of the Lincoln Economic Development Association (LEDA), Lincoln County and the state of North Carolina was critical to moving forward," he added.

Dr. Harald Stini, the global managing director for Tenowo spoke at the event: "This was a flagship project for Tenowo. It was a great example of an international group of people with different skills working as a team to complete a project on time, within budget and with the highest quality standards. The team and the project reflect our corporate values and guiding principles: trust, fairness, collaboration and cooperation."

Klaus Steger, CEO, Hoftex Group AG, spoke on behalf of the ownership and then cut the ceremonial ribbon. "We are proud of the success of Tenowo and stand behind the team, whose work and ingenuity, along with the support of Lincoln County, were essential to the successful completion of this project," said Steger. "I plan to convey the dedication of the employees here and the inspiration of this event to the Hoftex Group Board of Directors. As a result, we may see further investments come here even faster than was originally planned."

The first commercial production for the new machine occurred during the first week of January 2017 and the Grand Opening event was held on March 23, 2017.

(Source from: "www.textileworld.com")

Beaulieu to invest in fiber production in Belgium

Beaulieu Fibres International to invest EUR 15 million in new fibre technology

Beaulieu Fibres International, a leading European polyolefin fibre producer, will demonstrate its latest fibre innovations that address market demand in segments such as automotive, flooring and geotextiles at Techtextil 2017, which opens in Frankfurt today. "Beaulieu Fibres International's recent Supplier Excellence for Technological Innovation Award from Yanfeng Automotive Interiors, is just one example of its commitment to developing innovative new products in close cooperation with customers to enable them to bring more environmentally-friendly, lighter and better performing products to market," the company reports.

Investment

To support this, Techtextil visitors will hear first-hand of Beaulieu Fibres International's investment in new fibre technology on an industrial scale in Belgium. The EUR 15 million investment will be commissioned in November 2017. It is part of an ongoing programme to extend fibre production to meet future challenges and customer needs.

Techtextil visitors will also get insights on the company's upcoming products and explore Beaulieu Fibres International's extensive and diversified portfolio of Mono, Round and Trilobal fibres, plus BICO-fibres.

Innovation strategy

"Being the European leader for polyolefin staple fibres, it is also our commitment to stay ahead as Technology Innovator," said Donald De Deygere, Sales and Marketing Manager Fibres Industrial, Beaulieu Fibres International.

"Our innovation strategy is the cornerstone of our activities and various awards have proven this success. We are proud to announce new industrial investments in both Belgium and

Market News

Italy amounting to more than EUR 80 million over 2016-2018."

Beaulieu Fibres International is the biggest European producer of polypropylene staple fibre (PP fibre). The company is part of the Engineered Products Business Unit of Beaulieu International Group, with headquarters in Belgium. Beaulieu Fibres International has three production sites in Europe – two in Belgium and one in Italy. It supplies PP fibres with densities of 1,0 to 500 dtex to customers in industries such as hygiene, geotextiles, flooring, automotive, filtration and upholstery.

(Source from: "www.kohantextilejournal.com")

Ace Nonwoven

Founded in August 2014, Ace Nonwoven Private Limited (Ace) began operating an air through bonded nonwoven plant in India and began shipping commercial quantities in December 2016. According to the company, this is the first plant in India producing this type of nonwovens.

Ace is led by R. R. Maheshwari and Deepti Maheshwari. Maheshwari is currently business head of Ginni Nonwovens, a manufacturer of spunlace nonwovens and consumer wipes. Ms. Maheshwari is a textile graduate from The Indian Institute of Technology Delhi, with experience in technical textiles and nonwovens, and has been trained overseas in nonwovens technologies.

Located in the western part of India, near Mumbai, Ace's plant was built with top hygiene practices, according to Maheshwari. Ace's machinery and technology has been sourced from well-reputed global suppliers and the new air through bonded line is equipped with inline cameras and metal detection technology.

"Most of the hygiene products currently use alternate materials that are not as efficient," Maheshwari says. "Appreciating superior properties of this material, some baby and feminine hygiene brands in India are already

incorporating air through nonwovens in their products by importing them from Thailand/China. Importing the material means higher costs, but it allows consumers to access superior product. Local production of air through products will help bring locally made products to a higher performance level."

Most of the production from Ace's plant will target baby diaper and feminine hygiene applications in the acquisition distribution layer (ADL) and topsheet. As a topsheet, the product is very soft and feels extremely comfortable against the body. When used in an ADL layer, it is very efficient in distributing and absorbing liquids. The weight of the product can be reduced significantly. There is also a remarkable improvement in all product performance parameters as compared to conventional products, Maheshwari says.

Ace's new plant will meet local demand and will also export surplus quantities.

"Air through bonded nonwovens are known for high loft, bulk, absorbency and thickness, as well as lower weights," he says. "These features make them ideal for variety of disposable and durable end use product segments like baby diapers and feminine hygiene, garment wadding, interlining, insulation, filtration, bedding, furniture, carpet backings, wipes and fabric softener sheets."

[ILLUSTRATION OMITTED]

Hygiene product penetration in India is currently at a low level, Maheshwari explains, however use is growing at a rate of 15 to 20% annually. "With a growing economy, there is a surge in middle class as well as in income levels," he continues. "The number of women in the workplace is increasing. Feminine and child-care hygiene is taking a different dimension. Demand for quality products is rising even faster. This plant will help in meeting this demand so that the Indian diaper and feminine hygiene industries could offer product of international quality." (Source from: "www.thefreelibrary.com")

Market Trends

Demand trends of nonwovens for battery separators

Nonwovens are the choice for nickel metal hydride batteries

Battery separators are used to maintain the electrolytic solution by being inserted between positive electrode and negative electrodes, in order to prevent the polar regions from making contact. Thin microporous bodies, such as nonwovens, papers or microporous films are used for the separator. These separators are used properly by certain types of batteries, mainly nickel metal hydride batteries, nickel-cadmium batteries and lithium primary cells. Among these batteries, the one with the greatest demand for separators is nickel-metal hydrogen batteries.

Although nickel metal hydride batteries have been widely used as a power source for the portable device, it has been replaced by high performance lithium batteries and the amount of production of small, Ni-MH for the portable device has sharply decreased.

While demand for large Ni-MH has been expanded because it was adopted by the power source of hybrid cars, they are mainly used in all types of automobiles now. The output of the Ni-MH in Japan—in terms of the number of cells—has been decreasing with 1.026 million pieces at the peak in 2000. It has been changing in the 300 billion level after 2003 although it increased to 420 million pieces in 2016.

Demand Prospects

Nonwovens used in Ni-MH separators are made using the techniques for water jets and thermal bonded nonwovens after the web is made using a paper making method. The technical materials include a polyolefin like polyethylene or polypropylene. Although the nonwovens manufacturers that make these products are Japan Vilene, Daiwabo Polytec, Nippon Kodosh and Mitsubishi Paper Mills, Japan Vilene dominates the market currently.

Although the quantity demand of separator material in Japan is estimated at 16 million square meters, future demand is not expected to grow significantly. Auto manufacturers are changing the power source of the hybrid auto from Ni-MH to LiB. Main hybrid cars that currently use Ni-MH batteries are Toyota

Aqua and Prius. However, in the past year, some of these vehicles are now using LiB and this percentage is increasing with every model upgrade. This will lessen demand for Ni-MH batteries.

Under these circumstances, the nonwovens separator could not expect to grow with Ni-MH, so, the use of LiB batteries is increasing. However, these battery types use microporous films, mainly. This, of course, may change and already some LiB batteries are using nonwoven separators. If this conversion continues, the growth of nonwovens will also occur.

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

Voith and Trützschler introduce new safety standard for wet-laid spunlaced nonwovens machines

- Basis for safe production of Nonwovens
- Combination of proven standards for paper and textile machines
- Standardization process by ISO initiated

In the shape of standard VN 3260/TN 0790, Voith Paper and Trützschler Nonwovens have developed a new safety standard for wet-laid spunlaced (WLS) Nonwovens machines. The standard will help producers of Nonwovens to ensure safe and reliable operation of their machines. It also provides the basic prerequisite for meeting expectations in respect of production and quality.

Voith and Trützschler jointly developed the manufacturing process for wet-laid and hydroentangled Nonwovens. The machines on which the materials are produced consist partly of paper machine components and partly of components from Nonwoven machines. The manufacturing process for wet-laid Nonwovens is similar to that for producing paper: A suspension consisting of water and fibers up to 40 mm long is passed over a wire on which a homogeneous fiber mat forms. The hydroentangling or spunlacing process produces bonded Nonwovens that can be textured if required. Drying and winding of the Nonwovens are done on other machine components.

The newly developed standard combines various Voith and Trützschler safety standards

Market Trends

for paper and textile machines in a new document and thus defines the safety requirements for new hybrid machines.

(Source from: "www.textileworld.com")

The safety standard has already been incorporated by the International Standardization Organization (ISO) as the basis for developing an international standard, so as to achieve greater impact at global level.

(Source from: "http://voith.com")

Rockline industries launches new business: Iatric manufacturing solutions to produce FDA-regulated wet wipes in Tennessee

March 30, 2017 — Rockline Industries announced that it has formed a new subsidiary, Iatric Manufacturing Solutions, dedicated to helping foster healthy environments through the design and manufacturing of FDA-regulated wipes for use in the consumer, health care, food service, and hospitality industries.

Iatric will operate out of a new 435,000-square-foot state-of-the-art FDA-registered facility in Morristown, Tenn. The wholly owned subsidiary was born out of the rapidly increasing demand for Rockline's innovative wet wipes products that are designed to support healthier, sanitary environments and personal hygiene. The new plant will be operational beginning in 2018 and is expected to employ 250 people.

"Rockline is on the forefront of wet wipes product innovation and design. With the creation of Iatric, we will continue our company's tradition of turning great ideas into convenient solutions that help people lead cleaner, healthier lives," said Will Green, vice president of contract manufacturing services, Rockline Industries.

Rockline continues to experience tremendous growth adding new manufacturing plants and jobs. In 2015, Rockline opened a 240,000-square-foot facility in Russellville, Ark. and expanded its U.S. facial wipe production capacity in its Springdale, Ark. plant. Rockline currently operates five U.S. manufacturing plants in Arkansas, New Jersey and Wisconsin.

Healthcare fabrics market to reach \$12 billion by 2022

According to a new market research report, "Healthcare Fabrics Market by Raw Material (Polypropylene, Cotton, Polyester, Viscose, Polyamide), Fabric Type (Non-woven, Woven, Knitted), Application (Hygiene, Dressing, Clothing, Curtains, Blanket & Bedding, Upholstery), Region - Global Forecast to 2022" published by MarketsandMarkets, the market is estimated at \$9.48 billion in 2017 and is projected to reach \$12.90 billion by 2022, at a CAGR of 6.4% between 2017 and 2022.

Rising consumer awareness regarding hygiene products along with the improved quality of healthcare fabrics is expected to drive the growth of the healthcare fabrics market during the forecast period.

Among raw materials, the polyester segment of the healthcare fabrics market is projected to grow at the highest CAGR during the forecast period. This high-growth of the polyester segment can be attributed to its high performance at lower cost, as fabrics made out of polyester are strong and have high tensile strength. They are highly durable, chemical resistant, wrinkle-resistant, abrasion-resistant, and offer structural stability. Thus, the demand for polyester is expected increase during the forecast period.

Amongst fabric type, the nonwoven segment of the healthcare fabrics market is projected to grow at the highest CAGR during the forecast period. Nonwoven fabrics are used in various hygiene products ranging from baby diapers, to adult incontinence products. Nonwoven fabrics are used as an alternative to traditional textiles due to their excellent absorption properties, softness, smoothness, strength, comfort and fit, stretchability, and cost effectiveness.

The Asia Pacific healthcare fabrics market is expected to grow at the highest CAGR during the forecast period. The increase in disposable incomes of middle-class populations in the Asia Pacific region makes it an attractive market for manufacturers of healthcare

Market Trends

fabrics. The demand for healthcare fabrics is high in the region owing to improving standards of living, increased focus towards the use of personal hygiene products and growing populations.

Among applications, the hygiene products segment in the healthcare fabrics market is projected to grow at the highest CAGR during the forecast period. The demand for healthcare fabrics in hygiene products is mainly driven by the increase in consumption of sanitary napkins and baby diapers in the emerging countries of the Asia Pacific. Moreover, rising awareness and growing disposable incomes coupled with the rising numbers in the newborn and menstruating population is expected to fuel the growth of the healthcare fabrics market in hygiene products.

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

Organic femcare market expected to grow 7% annually

Research and Markets has announced the addition of the "Global Organic and Natural Feminine Care Market 2017-2021" report to its offering. The global organic and natural feminine care market is expected to grow at a CAGR of 7.09% during the period 2017-2021.

The report covers the present scenario and the growth prospects of the global organic and natural feminine care market for 2017-2021. To calculate the market size, the report considers the revenue generated from the retail sales of organic and natural feminine care products. The report also includes a discussion of the key vendors operating in this market. The demand for these natural products is increasing because of their advantages in maintaining hygiene.

One trend in market is increasing demand for natural and organic products. There has been an increasing demand for natural and organic feminine care products due to their skin friendly and environment friendly nature. These products are made of non-Genetically Modified (non-GMO) certified organic cotton, which is free from artificial dyes, rayon, and fragrances.

According to the report, one driver in market is growing awareness about hygiene and related products. Feminine hygiene care products such as menstrual pads, tampons, and pantyliners have been in the market for a longer period. But the awareness about the correct use of these products has been low. However, the rising advertisements and campaigns by vendors and governments worldwide, and growing educated population have helped to increase awareness about these products, the way of maintaining proper hygiene, and the correct way of disposal.

Further, the report states that one challenges in market is presence of counterfeit products. Counterfeit products are one of the biggest challenges in the market. Since they are cheap and fake, they affect the brand image and profits of company with the original products. For instance, counterfeit pads contain harmful substances that cause uterine cancer to women, according to the report. In the U.S., in 2014, many law enforcement authorities seized counterfeited products of the Always menstrual pads.

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

Fibertex Nonwovens is participating in one of the world's largest bridge projects: Formtex® to ensure long lifetime of concrete in aggressive environment in Kuwait

Fibertex Nonwovens has been chosen as the supplier of Formtex® for one of the largest bridge projects in the world. The 36 km long concrete bridge is being constructed across the bay between Kuwait City and the Subiyah region. The bridge connects Kuwait City and the new Madinat al-Hareer (Silk City), a USD 100 billion urban development project which, among other things, will accommodate the 1,001-metre tall Burj Mubarak al Kabir and the international Bubiyan seaport. Silk City is expected to play a key role in connecting the Middle East and Asia.

The project comprises onshore facilities, a 27 km causeway as well as a beautiful elevated bridge with a 200 m wide and 23 m tall passage – a total of 36 km. When finished, the bridge will reduce the distance between Kuwait City and the Subiyah region from 104 to 36 km, thus reducing the transport time

Market Trends

from 90 to 30 minutes. The bridge is one of the biggest and most challenging transport and infrastructure projects in Kuwait and will be a monument to the late emir.

Salt water, high temperatures and increased CO₂ levels in the air accelerate the breakdown of the concrete structures significantly. Innovative solutions are therefore needed to ensure that the reinforced concrete has a service life of more than 120 years, as requested by the project owner.

The project is carried out as a Design-Build-Operate (DBO) project, where the contractor must pay the maintenance costs for a part of the operating period. Therefore, there has been special focus on finding a solution that is financially sustainable throughout the entire lifetime of the bridge.

"We're very pleased that some of the world's leading contractors and advisers have chosen Formtex® due to the high quality, flexibility and mouldability of the Formtex® CPF Liner. This means that the concrete achieves the best durability, while at the same time minimising maintenance," says Michael Møller, Product Manager at Fibertex Nonwovens.

Fibertex Nonwovens is supplying a total of 1,500,000 m² Formtex® for use in the casting of both bridge pillars and bridge spans. Formtex® is used for the casting of the actual concrete elements. The Formtex® CPF Liner drains water from the structures and thereby reduces the water/cement (w/c) ratio of the concrete. The result is a smooth and even surface of the concrete elements without blowholes. This ensures a strong concrete surface that is able to withstand impacts from sand and salt water. It is not the first time that Formtex® is chosen for a major international construction project, but it is, however, by far the largest project for the present.

"We've spent a lot of time in Kuwait consulting, testing and not least training the contractor in the application of Formtex® in practice. Documented results and the high service level have proved that Formtex® is the best solution in direct competition

with other solutions and other suppliers," says Mikael Møller. He emphasises that Fibertex Nonwovens qualified Formtex® for a construction project as large as the bridge in Kuwait on the basis of numerous reference projects and solid documentation.

"Without a doubt Formtex® was chosen for the project because it proved its ability to ensure prime concrete quality in the various laboratory tests carried out prior to construction. In addition, Fibertex Nonwovens is known to supply products of high and uniform quality which we can document in an efficient quality assurance system," says Mikael Møller.

The Danish company has worked for more than a decade to be qualified for the project which is now a reality. Following fierce competition with other two candidates, Fibertex Nonwovens won the assignment and the giant order of 1,500,000 m² Formtex®.



Formtex® is easy to shape and install and is therefore suitable for the round shape of the concrete elements.

The 60 m long and 25 m wide bridge spans are stored and left to set in the desert before being transported to the bay.

(Source from: "www.fibertex.com")

Diaper makers report category softness

Market Trends

Two of the world's largest manufacturers of disposable diapers reported softness in their baby diaper markets this earnings season. Citing various reasons for the softness, both Kimberly-Clark and Procter & Gamble say they will focus on category innovation to help their businesses rebound.

"We are focused on innovation," says K-C CEO Tom Falk. "As a consumer preferred brand it is our job to focus on category innovation."

Innovation will help the company return sales of its diapers and other products to high levels in upcoming quarters. Earlier this week, K-C reported that lower sales volumes in the infant and childcare business were largely responsible for slight decreases in the company's personal care division. Sales of Huggies diapers were reportedly down in the mid single digits during the second quarter. Sales of Huggies baby wipes grew in the mid single digits.

Executives blame the softness on two major economic trends—increased competition in the category as well as lower category demographics, caused by a declining birth rate in major markets like North America and South Korea.

According to population data released by the Centers of Disease Control and Prevention last month, birth numbers fell 1% this year, bringing the general fertility rate of 62 births per 1000 women ages 15 to 44. The trend is being driven by a decline in birth rates for teens and 20-somethings. The birthrate for women in their 30s and 40s has increased—but not enough to make up for the lower numbers in their younger peers.

Falk says he considers the declining birth rate a temporary situation. "There are lots of reasons for the birth rate decline," he says. "But, the broad trend is that millennials are having kids later, but as long as they have the same number of kids eventually, it will correct itself."

As K-C makes efforts to compensate for

lower birth rates and steel itself in an intensely competitive climate in North America, China continues to be a bright spot for the company.

With five times as many babies born as in the U.S., K-C has been successful offering best-in-class innovation, which translates into a tier seven product and premium diaper pants.

China is also on mind of K-C competitor Procter & Gamble who reported softness in its diaper business during the fourth quarter of its fiscal year. Noting that baby care sales decreased in the lower single digits due to competitive activity in the market, P&G cited softness in the Chinese market as a key contributor.

To combat this, earlier this year the company introduced a premium pull-up diaper under its Pampers brand and will expand its range of super premium diapers with a tape-style diaper next month. Both diaper SKU's, which were made in Japan, come with a tagline describing them as the number one choice of Japanese hospitals.

"China is a critical country and the diaper market is a great opportunity for us," Falk adds. "All of the growth is coming in the premium market."

In March, P&G executives admitted to analysts they had made mistakes in entering the Chinese market, underestimating the Chinese consumers' need for ultrasoft, premium products but they are confident that adjusting a strategy will yield more attractive results.

Outside of baby diapers, P&G's feminine hygiene segment benefitted from innovation in its pads business. Improvements including a cotton topsheet and proprietary absorbent material that can absorb up to 10 times its weight has driven sales up in the mid teens and helped drive growth in the superior premium feminine hygiene market.

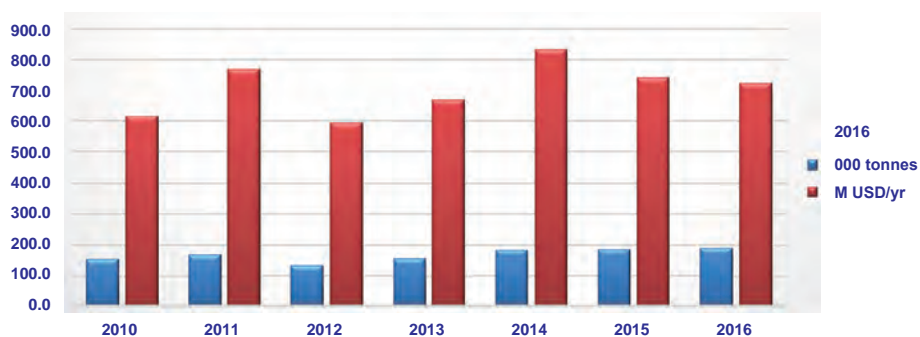
(Source from: "www.nonwovens-industry.com")

2016 Taiwan nonwovens production

Taiwan nonwovens production (2008~2016)

Source: TNFIA

	2010	2011	2012	2013	2014	2015	2016
K tons	150.0	164.8	130.5	153.1	181.5	183.7	188.0
M USD	614.1	765.1	591.8	667.2	833.4	739.3	721.8
USD/kg	4.09	4.64	4.53	4.36	4.59	4.02	658.1

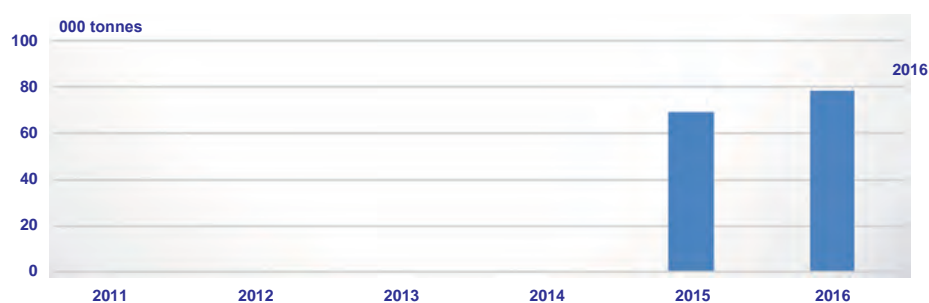


2016 Indonesia nonwovens production

Indonesia nonwovens production (2011~2016)

K tonnes

	2011	2012	2013	2014	2015	2016
Thermalbonded					4.2	3.6
Needlepunched					33.3	40.6
Spunlaced					5.0	5.5
Spunbonded/MB					25.9	27.8
Others					0.4	3.6
Total	-	-	-	-	68.7	81.2



Application of polyester Nanofiber & m-aramid staple fiber

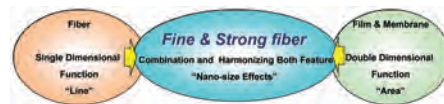
Mie Kamiyama, ph.D
Senior Technical Expert

TEIJIN Company outline Business Group Structure



Teijin vision about Nano Technology

- 1) Ultimate Proposition about Fiber technology Challenge for "Thinner*" & "Stronger" Fiber
* Smaller fiber Diameters
- 2) Target Domain & Solution



Nanofront® Feature

Strong Points of Nano fiber Continuous-Filament

- Excellent Uniformity of Fiber Diameter
- High Tenacity: Various Application (textiles, knitted, non-woven fabrics, yarns)
- Easy Processing: High productivity & Eco-Friendly

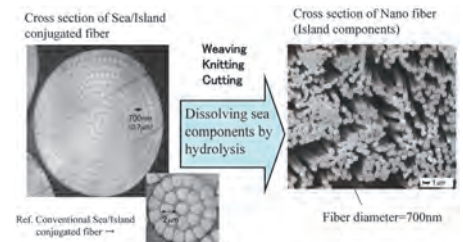
Polymer variation: PET & PE, Ny6, PLA etc.

Nanofront® - Application

Anti-slip, Opacity, Absorption, Comfort, Softness

Textile & Inner, Sports wear & goods, Industrial Application, Filter & membrane

Cross Section and Separation Process between Sea and Islands

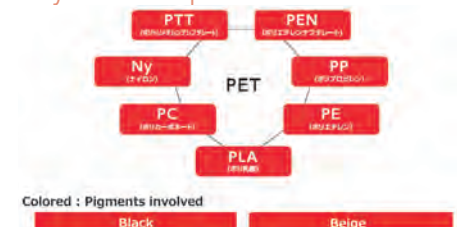


Comparison: Nanofiber Manufacturing Technology Process

	Nanofront	Electro-spinning	Blend-spinning
Manufacturing process of main fibers	Sea/Island Conjugated Fiber Sea removal	Polymer dope Blow fiber Sea removal	Random short-length fibers Sea removal
Product	Filament	Non-woven	Staple fiber
Uniformity of diameter	Good	Not good	Not good
Tenacity	Se/10tex	< 1cN/dtex	N.A. due to short fibers
Utility	Good	Not good	Not good
Productivity	Good	Not good	Good

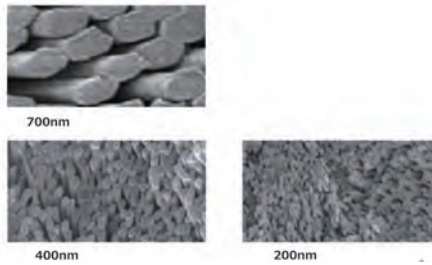
In company's comparison / there's no guarantee of that.

Polymer line-up of nanofronts



Technology News

"Further more smaller diameter"

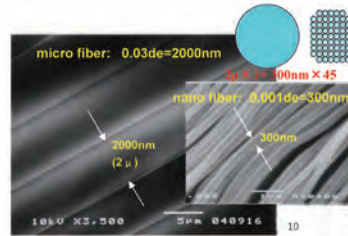
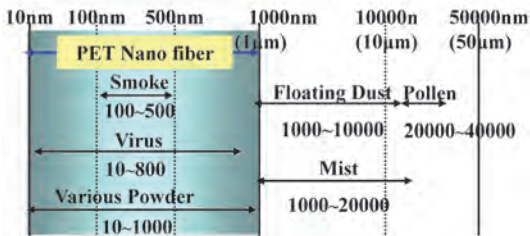


The Features of Nano Filaments

- 1) Features
- Filament type
 - Uniformity of fiber diameter
 - High Tenacity
 - Easy Processing

	Diameter (nm)	Thickness (denier)	Strength (g/denier)	Elongation (%)
Micro fiber	2000	0.03	3.0	30-40
Nano filaments	800	0.007	6.0	30
	480	0.002	5.0	30
	300	0.0016	3.4	20
	36	0.00001	Experimental Stage	

2) Nano particle size



Application of nanofiber by nano-size Effects

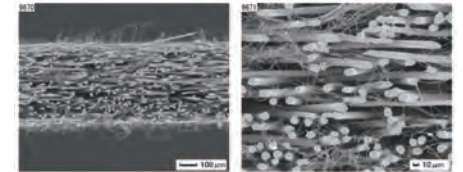
Nano size effects



Various Application & product have been proposing to the market by 10-years more R&D and marketing.

Nano Fiber Filter

Materials: 700nm nanofiber blended polyester short cut fiber sheet



High Performance : Low Pressure & High Efficiency= Energy saving & Long Life

Technical Points:

- 1) Even Dispersion of each nano fiber
- 2) Various and Precise Porous Structure by Combination with Other Fibers

Nano-order Effects

Surface Area



10's - 100's of times more Surface Area

Adsorption

Van der Waals Force Chemical function with modified polymer



Dispersion

Utilizing nano porous area between nanofibers



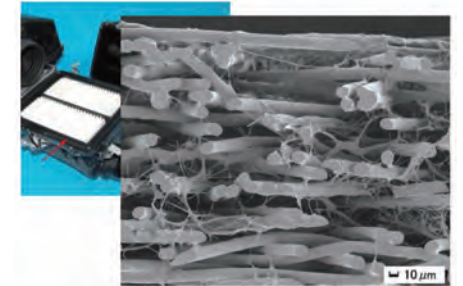
Separation



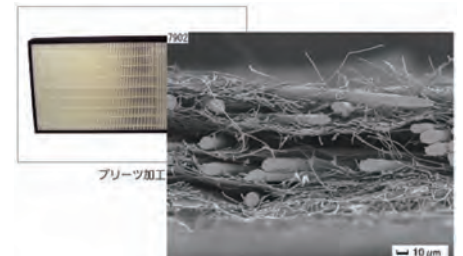
pore size = approximately fiber diameter size

Air Filter

Nanofront® filter A



Nanofront® filter B



Technology News

Sample	Pressure Loss (Pa) @5.1cm/sec	Efficiency (%) 0.3μparticle	PF High Performance Index
Conventional (MB) engine filter	14	9.4	3.0
Nanofront® A	12	26.3	10.8
HEPA	190	99.9	15.5
Nanofront® B	50	99.0	39.1

Feature of Nanofiber sheet: High Permeability

Reason

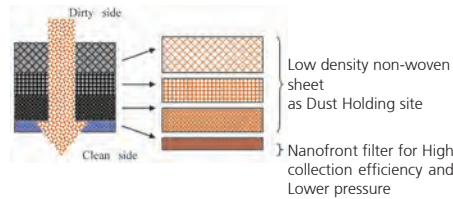
- 1) Presumed due to Large Numbers of pores
- 2) Pore Diameter Size Fluctuation

Advantage of nanofiber sheet

- Lower pressure loss
- High collection efficiency

Design of Air Filter

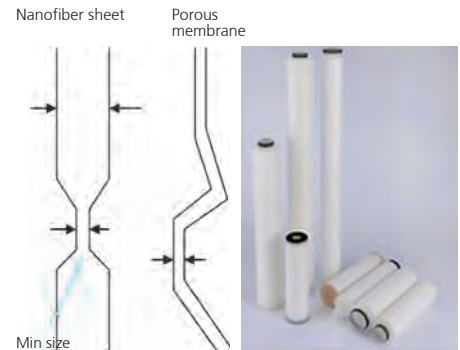
High Efficiency & Long Life: Multi layer filter



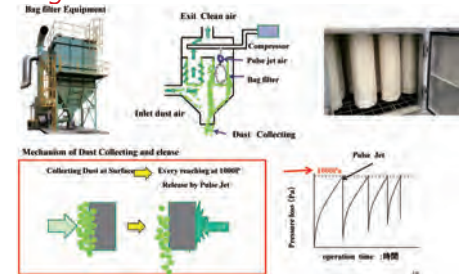
Filter Life:

Period of time up to 2000Pa over 0.1% JIS #8 particle dust air flow

Collection Efficiency: Dust capturing rate of 0.3μm particles



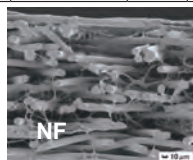
Bag filter



High Efficiency & Long Life : Multi Layer Filter

Sample	Conventional non-woven	paper	Non-woven with nanofront sheet
Thickness (mm)	1.7	0.5	5
Density (g/cm ²)	0.17	0.19	0.042 } gradient in density of non-woven 0.051 } 0.064 } 0.15 Nanofront sheet
Dust Holding Capacity (g/m ²)	273	54	922
Lifetime (min) Up to 2000Pa	40	16	150
Collection Efficiency(%) 0.3μparticle	70	85	100

Nanofront sheet



Regular

Goal and Challenge

1) Market needs(VOC)

Strict Regulation about Emission & Environment , Running cost down

2) Development Goal

High efficiency and Energy-saving (low pressure loss) bag filter

3) Conventional market product

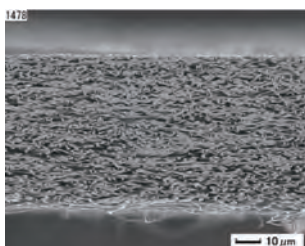
- Commodity: Needle-punched non-woven
- feature: Low efficiency and pressure loss , easy to be stacked by dust , low price
- High spec: PTFE membrane laminated with needle-punched non-woven
- feature: High efficiency and pressure loss , high price

4) Development Challenge

- Structure to keep High Efficiency and Low pressure loss

>>> next 9

Liquid Filter



Nanofiber sheet	properties
Weight g/m ²	10.1
Thickness μm	25.8
Pore Volume %	72.2
Pore size μm mean/ max	0.7/1.5
Galley 100cc/sec	1.2

Technical Trends

Airlaid market readies for new investment

After years of caution, manufacturers brace for new capacity

The airlaid market, at least in North America, is awaiting the impact of the industry's next big production line, an event that will surely shift the supply-and-demand picture for several years to come.

The line in question was announced by industry veteran Glatfelter in late 2015. This 22,000 short ton line will be housed in a new-to-the-company facility in Fort Smith, AR, located in close proximity to at least one major wipes producer and a large feminine hygiene manufacturer.

The investment is the largest one the North American airlaid industry has seen since the early 2000's when Buckeye (which is now a part of Georgia-Pacific) added a 50,000-ton line around the same time that Concert Industries (a business now owned by Glatfelter) added two side-by-side lines in Gatineau, Quebec.

According to executives, the new line will mainly make lightweight airlaid products suitable for wipes and light feminine hygiene items.

In 2015, feminine hygiene applications dominated Glatfelter's sales, representing 74%, while wipes comprised less than 10% of sales. CFO John Jacunski recently told analysts that the investment in Arkansas, which will also include a center of excellence, will allow Glatfelter to target wipes without compromising the needs of its feminine hygiene efficiencies.

"(The new line) will bring additional balance to the portfolio which is a good thing and at the same time sends a message to all of our customers that we are willing and able to support their growth," he says.

With the location not far from wipes maker Rockline's operation in Springdale, AK, and feminine hygiene manufacturer Kimberly-Clark's facility in Conway, AK, industry insiders are speculating that the capacity on

this new line already has at least two key customers.

Industry reaction

What this new line will mean for the rest of the airlaid industry, particularly within North America, remains to be seen. As Glatfelter's role in the wipes market expands, its main competitor Georgia-Pacific will likely be forced to look for new markets—like feminine hygiene or tabletop—to fill its capacity, much of which is made in Gaston, NC, on a line built by Buckeye Technologies in 2001. This line is mainly focused on wipes, and up until now G-P has had little local competition in airlaid for wipes.

"Airlaid is a small specialty nonwovens business," explains airlaid expert Phil Mango. "Because the lines have gotten so big, one investment can really influence supply and demand. In fact, just 5000 tons one way or the other can really change a company's perception of things."

In addition to the new Fort Smith facility, Glatfelter has airlaid operations in Germany and Canada. The investment will bring the company's global airlaid capacity to about 129,000 short tons. As it waits for the new line to come onstream late next year, Glatfelter reports a shortage in supply in its airlaid business. Last year, volumes increased 8%, according to executives, but sales were down on lower raw material prices. The investment will help broaden Glatfelter's technology as well as its manufacturing footprint.

"We are truly excited to partner with the people of Fort Smith and Arkansas because we know that investing here makes great business sense for our company," says Chris Astley, president of Glatfelter's Advanced Airlaid Materials Business Unit and a senior vice president of Glatfelter. "Locating here benefits our business in a number of ways. It will enable us to expand our capacity to meet our customers' growing demand for our advanced airlaid products, provide us with closer proximity to key suppliers and customers and link us to highly efficient transportation routes across the South. Equally important, it will allow us to tap into the area's high-quality workforce."

Technical Trends

Domtar's decision

Meanwhile, Domtar, a paper specialist that has found its way into the airlaid market through the acquisition of the nonwovens assets of EAM (Engineered Absorbent Materials) including the Novathin Technology. Sources close to Domtar say the company has not been successful using all of the Novathin Technology, which is made in Jessup, GA, internally, despite an aggressive personal care growth strategy, which has included a number of acquisitions in recent years. This has forced Domtar to continue to sell a portion of its output within the feminine hygiene and adult incontinence markets.

This could soon change. In announcing quarterly earnings this spring, executives told analysts that the company had won about \$100 million in new business within its personal care businesses during the past 12 months. In the second quarter of 2016 alone, sales of the Attends adult incontinence products as well as private label baby diapers and other hygiene items, reported sales growth of 6% to \$228 million in this business segment.

While much of the business won was within the baby diaper market, which saw sales grow 21% during the quarter, Domtar has been steadily acquiring brands in feminine hygiene, incontinence and other hygiene areas since 2011. Earlier this year, the company added Butterfly Health, a maker of body liners for sufferers of accidental bowel leakage to its product portfolio. This niche product already uses the EAM absorbent core technology.

Having a technology engine like EAM within personal care has been a powerful tool in allowing the company to build product innovation, and executives credit the airlaid technology for allowing it to boost its innovation profile throughout its hygiene business. A recent example of this was the relaunch of Indasec, Domtar's Italian light incontinence brand, with the addition of EAM core technology.

"More and more we can find great technology from EAM and incorporate it into the product where we get a consumer benefit, a usage benefit and we can then build product technology that deserves a

premium," CEO John Williams says. "Indasec is the first move in this direction and so far the consumer reaction has been strong."

To fuel the Indasec restage, Domtar added EAM capabilities to its plant in Toledo, Spain, and moving forward all of its lines will be able to accommodate the EAM technology where necessary.

The increased usage of its own airlaid within its hygiene products, makes Domtar the most likely company to add next North American airlaid line. While, there is plenty of room for a line in Domtar's Greenville, SC operation, where it makes Attends adult incontinence items, sources feel that acquisition is the company's top priority for now.

Airlaid advances

According to new report from industry tracker Smithers Pira, the global airlaid nonwovens market is currently valued at \$1.64 billion and is predicted to grow at an annual growth rate of 4% to \$2 billion by 2020. Demand for airlaid nonwovens is strong as key markets like adult incontinence, feminine hygiene, wipes and food pads are all growing globally. The consumer desire for thinner, more discreet and comfortable feminine hygiene and adult incontinence pads, and even baby diapers, matches the strength and properties of airlaid nonwovens.

The study shows that there are significant differences in the major regional markets for airlaid nonwovens. North America has the tightest supply of airlaid, with utilization at almost 95%. It is the home of the two largest airlaid producers and the largest airlaid raw material suppliers. North America is already importing some material from Europe, and would have had major supply issues if new capacity were not added by 2020. Meanwhile, Europe, where major producers include McAirLaid and Glatfelter in Germany, Karweb in Turkey, Duni in Sweden and Lucart in France and Spain, has the highest available airlaid supply today, with utilization at only 87.5%.

And, this low utilization rate comes after Duni's decision to narrow the focus of its

>>> next 9

Product News

Jacob Holm Group introduces SoftFlush® FAST

Basel, April 3, 2017 – Jacob Holm is pleased to announce that SoftFlush® has been nominated for an INDEX™ 17 Innovation Award. SoftFlush® is a unique, patented dispersible wipe material that exceeds the highest levels of dispersibility with significantly higher strength and softness than leading competitors. Our custom designed fiber blends come from sustainable natural resources, making SoftFlush® 100% biodegradable. Our innovative team is capable of tailoring a dispersible wipe substrate to meet your Moist Toilet Tissue market aspirations.

We are also delighted to introduce SoftFlush® FAST – our next-generation, patent-pending technology. SoftFlush® FAST breaks up like premium toilet paper and has the strength of a wet wipe. Not only does it feature greater softness, but SoftFlush® FAST is also thicker and stronger than other Moist Toilet Tissue products on the market.

Visit our website, www.jacob-holm.com to learn more about the SoftFlush® brand and how Magic Meets Fabric at Jacob Holm.

About Jacob Holm Group, Magic Meets Fabric

Jacob Holm Group develops unique non-woven fabrics to meet your challenge. With our young entrepreneurial spirit and over 220 years of business experience, we combine discipline with creativity to bring magic to fabric. Thanks to extensive research and innovation, we continuously add value to our fabrics, such as Sontara®, SoftFlush®, SoftLite® and Softesse®. Today, over 700 employees supported by a worldwide sales and production organization, serve the Hygiene, Consumer Wipes, Beauty Care, Health Care and Industrial markets.

(Source from: "www.jacob-holm.cn")

Kelheim presents new and established products

Viscose speciality fibre manufacturer Kelheim Fibres presents a mixture of new and well-established - and further enhanced - products

at INDEX™ 17.

Flushability remains one of the most important topics. With its flat short-cut fibre, Viloft, Kelheim Fibres offers the first viscose fibre for rapidly disintegrating wet wipes. Together with the local wastewater authorities and renowned pump manufacturer WILO, comprehensive tests on products containing Viloft were conducted in 2016.

"We wanted to go one step beyond the requirements of the flushability guidelines and we see what actually happens down in the sewage system. In contrast to traditional (spunlace) wipes, which led to clogging and blocked pumps, wipes made of Viloft have passed the test with flying colours," says Matthew North, commercial director at Kelheim Fibres.

He adds: 'Our close cooperation with the wastewater authorities has made clear to us how much damage to the sewage systems is really caused by incorrectly disposed wet wipes. The increased maintenance costs amount to almost 200 Mio € per year in Germany alone - and, at the end of the day, these costs are paid by the consumer. "

Hygienic fibers remain another important topic for the world-leading manufacturer of viscose fibers for the tampon industry, Kelheim's patented, extra absorbent specialty fibre Galaxy, highest hygiene standards as well as a deep understanding of its customers' needs, enable long-lasting peer-to-peer partnerships. The 'External Business Partner Excellence Award 2016' recently received from P&G, is proof of this, says Kelheim.

In addition, Kelheim Fibres' in-house R&D has developed a new fibre named Electra, which can be used in a wide range of applications for the dissipation of static charges. Currently, Kelheim is testing the possible use of this fibre in connection with sensitive electronic components.

(Source from: "INDEX 17")

行业信息

第十七届上海国际非织造材料展览会
展商预览

意大利亚赛利无纺布设备有限公司 1L40
Celli Nonwovens S.p.A. 专业提供无纺布领域的卷绕、退卷和包装生产线、码垛和卷装运输等。产品系列包括辅助系统，如切割单元的自动定位系统和纸板卷芯的自动切割系统，配备印刷系统的退卷机和多功能生产线，以及用于气流法无纺布生产的技术。创新的 MySp@res® 系统和全天候（24/7）售后支持服务令 A.Celli 的产品更加完善。
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1A25
CEIA是一家专业从事于金属探测器的设计、研发和生产的制造型企业。CEIA成立之初，即开始生产纺织行业金属探测器，用于检测织物中的金属碎片，以便保护生产设备。CEIA金探的质量和安水准通过了用户严格的对比测试，获得了全球政府机构和私营企业的高度认可。CEIA公司将最先进的技术应用于生产各个环节，确保金探满足用户需求。CEIA金探检测性能经过了大量工厂的测试，满足其严格的内部标准，因此其可靠性和免维护获得了业界的高度评价。

WWW.CEIA.NET

申克博士测试设备有限公司 2A18
申克博士有限公司，成立于1985年，总部位于德国慕尼黑，是一间创新的高科技公司。申克博士研发，生产，销售用于产品质量保证以及生产工艺监控的自动光学表面检测及测量方案，还包括高品质，定制化的传动系统。

在世界各地，申克博士的300名优秀员工不断为表面检测设备树立新的标准。超过12,000平方米的现代化，无尘室生产以及测试设施，可用于研发制造最前沿的光学和电子元件满足客户的需求。

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EMTEC ELECTRONIC GMBH 1V21
emtec Electronic公司自1995年起开发、生产并销售制浆&造纸和无纺布行业使用的先进检测仪器，目前全球已有80多个国家的实验室和工厂在使用emtec公司的产品，约30位销售代表在继续为全球客户提供支持。emtec Electronic公司的主要目标是在工艺优化、质量保证和产品开发上寻求创新的解决方案，帮助客户提高产品质量、降低成本并减少客诉。为达到该目标，emtec与业内客户保持紧密良好的联系。例如，公司的TSA无纺布柔软度分析仪，就是基于客户需求而开发，目前市场上是独一无二的。
www.emtec-electronic.de

行业信息

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奥地利兰精集团拥有79年的纤维生产经验，兰精公司为全球纺织业和非织造行业提供高质量的植物生态纤维素纤维，从传统的粘胶纤维，到天丝®品牌莱赛尔纤维。兰精的成功基于一贯以客户为导向，在创新、技术和质量方面领先的独特组合，致力于可持续发展的管理，提出极高的环保标准。

www.lenzing-fibers.com

Mogul 纺织生产和贸易公司

1J01

Mogul 是一家土耳其家族企业和跨国公司，在土耳其和美国有4家生产工厂。始建与1997年，专注于生产和销售无纺布和复合材料。Mogul是土耳其第一家生产纺粘无纺布，熔喷无纺布和SMS无纺布的公司。Mogul是INDA排名全球无纺布前40强企业，和土耳其出口销售额和总营业额前1000强企业。Mogul的大部分产品出口到全球4大洲40多个国家，提供给客户稳定的产品质量，合理的价格和满意的服务。请查询网站 www.mogulsb.com 有关Mogul更多信息和mogul@mogulsb.com联系。

www.mogulsb.com

奥地利新世代再生塑料机械公司

IJ08

NGR提供订制回收解决方案，对塑料行业和消费后塑料产出高质量粒子实现零废品生产。

通过新的LSP技术，PET材料在回收工艺中生存，与原材料相比具有更好的状态（增质回收）。

随着智能机器连接NGR增加效率和质量（自我监测，分析和报告技术）机器性能和粒子的质量得到实时监控和持续分析。

感谢在欧洲，美国和中国的客户服务中心，NGR从未远离她的客户，NGR是强大的新世代集团的一部分（Collin, BritAS, NGR）

www.ngr.at

欧瑞康（中国）科技有限公司

1H20

欧瑞康非织造作为一个工程专家，为纺粘非织造布以及熔喷和气流成网非织造布的高效生产提供工艺解决方案。业务单位隶属于欧瑞康化学纤维事业板块 - 用于化学纤维制造、加弹机、BCF系统、短纤维的

纺纱系统和人造草皮系统的长丝纺丝系统全球市场领导者。

www.oerlikon.com/manmade-fibers

普斯艾科技有限公司

1P01

PSA科技有限公司是一家世界领先的卷绕和复卷分切机制造商，一直以来遵循着企业的座右铭“为您设计完美的卷绕分切机”而不断地寻找创新的和改良的新技术来满足客户的需求及迎合市场的转变。公司专业的设计团队和非凡的制造力可为客户量身定制符合客户生产需求的机型。公司的不断发展壮大和世界各地客户对我们产品的满意回馈都足以证明在卷绕与分切领域PSA公司将是您最佳选择。

www.psa-technology.com

TECHNICAL ABSORBENTS LTD. 2C01

自1993年公司成立至今，公司的核心业务是在英国工厂生产超吸水纤维(SAF™)，同时，公司也开发了以SAF™为基础的后续业务以利于产业链发展，如无纺布，纱线。由公司直接生产供应，或通过公司的合作伙伴供应。由此，其超吸液技术适用于多样的应用，能满足各种高性能市场需求，使公司成为具有特殊地位的吸液解决方案供应商。

www.techabsorbents.com

TESTEX SWISS TEXTILE TESTING LTD. 2A23

TESTEX瑞士纺织检定有限公司是一家全球运营的独立瑞士检测与认证机构，它专注于纺织行业。除了其设在瑞士苏黎世的总部之外，TESTEX还设有12个办事处。

1846年以来，TESTEX一直专注于纺织行业的检测、分析与认证。历史悠久，且因其高品质服务、独立性与创新能量而广受推崇。先是在欧洲，随后在全球范围内。我们为我们的里程碑感到自豪！

www.testex.com

乌斯特技术公司

1B53

乌斯特技术公司是纺织测试及质量控制的全球领导者。其测试、监控仪器及系统为创新及简易操作技术设立了标准，同时也为整个纺织产业链的工艺优化及可靠的产品质量提供了保障。

乌斯特专业的咨询及培训服务基于“质精于思”的理念并通过70年的专业经验得以

行业信息

巩固。今天，“质精于思”不仅总结了公司的经营理念，并将恪守此承诺于客户。乌斯特技术公司总部位于瑞士的乌斯特小镇。在全球范围内设立销售及服务网络并战略性地在瑞士、美国、中国设立技术中心。
www.uster.com

齐格勒无纺新材（湖州）有限公司 1W02以超过150年的行业经验作为核心竞争力，公司与客户一起开发新的创意，新的产品。最先进的生产工艺和个性化解决方案能够帮助我们和客户达成共同的目标。公司的产品序列包括针刺无纺材料、复合无纺及天然纤维无纺产品，涵盖了常规和特种应用领域。并且公司也可以根据客户的要求，通过后加工步骤进一步扩充公司产品序列，例如进行CAD控制的裁剪或冲压。
www.ziegler.eu

安德里茨供给墨西哥欧拓公司一条完整针刺生产线

格拉兹，2017年7月24日讯。安德里茨得到了总部位于瑞士温特图尔的欧拓公司订单，供给欧拓位于墨西哥圣路易斯波托西的工厂一条安德里茨neXline eXcelle针刺生产线，用于汽车市场300~900克/平方米的针刺绒毛毡生产。面料将用于生产地毯、乘客舱前围档板隔音垫和地毯隔音垫。生产线工作门幅4.4米，整线开车预定在2017年底。

提供的设备中包括了一台Dynamic eXcelle梳理机和一台交叉铺网机并结合了安德里茨牵伸和针刺技术。安德里茨同时也会提供工艺控制设备以及独一无二的、闭环ProDyn系统，以便持续的纤网监测以及优化最终产品。生产线的最大速度20米/分钟，安德里茨针刺生产线的产能按此将会高达1100公斤/小时。

此订单再次证明了安德里茨与欧拓之间牢固而长期的合作关系。在宾夕法尼亚州的布鲁斯伯格以及印第安纳州的杰斐逊维尔，在美国同时也在欧洲已经有好几条安德里茨生产线在运行。

欧拓公司在汽车声学和管理解决方案领域位居全球市场和技术的领导地位。基

于他自己的专门知识和工艺专门技能，欧拓开发和生产主导着汽车生产商的系统和部件。他的客户遍布欧洲、北美、南美以及亚洲的主要市场。欧拓公司本身在全球20多个国家有大约50家公司，员工人数超过了11000人。

更多信息，请联系：
Michael Buchbauer
Head of Corporate Communications
michael.buchbauer@andritz.com
www.andritz.com

奥斯龙-明士克集团投资都灵工厂

奥斯龙-明士克集团将在意大利都灵工厂加大投资，以满足日益增长的对发动机和工业过滤介质的需求。

过滤业务与绩效执行副总裁 Fulvio Capussotti表示：“这一投资增长旨在提高我们当前的服务水平，但更具战略意义的是我们能够为我们的客户提供一个可以进一步发展业务的工业平台。该计划将包括对所选资产的投资，对规划和额外人员的重组。该计划发布将于2018年初完成，并将显著提高我们回应过滤客户目前和未来需求的能力。”

都灵工厂位于意大利北部，约550名员工，生产过滤介质和硅胶涂层离型纸。

在2017年7月25日发布的奥斯龙-明士克集团的半年报告中，增加的投资额包括在2017年的资本支出估计中。

（资料来源：“www.convertguide.de”）

Berry 全球集团进入了财富500强

Berry全球集团（纽约证券交易所：BERY）位于印第安纳州埃文斯维尔，是一家全球创新工程材料、非织造专业材料和销售包装的制造商和营销商。在今天（2017年6月13日）宣布加入了财富500强，这是财富杂志对美国最大公司的排名。Berry的排名为413位，在2016年的财政收入为65亿美元，使公司在《财富》杂志的排名上，成为了总部在印第安纳州的第六大公司。

“这是Berry的精彩时刻，这也是我们丰富历史上的又一个里程碑。我们已经从印第安纳州埃文斯维尔的一个制造工厂发展到在全球拥有131个工厂和超过2.3万名员工。此外，自2012年10月成为上市公司以



▲ 安德里茨用于生产无纺布产业用毡的高产能 neXline eXcelle 针刺生产线



▲ 欧拓超轻无纺布地毯

行业信息

来，Berry取得了巨大的进步，因为我们的业绩表现强劲，股价上涨了两倍多，表现优于同行和标准普尔500指数。我们良好的商业模式和市场领导地位使我们能够继续保护对于我们的客户、股东和员工来说重要的东西。”Berry的总裁Tom Salmon说。
(资料来源：“www.berryglobal.com”)

Elmarco Nanospider™ 静电纺丝技术

NS 生产线 NS 8S1600U

系统

Nanospider™ NS 8S1600U是批量生产纳米纤维的基础组件。易于使用、具有可扩展性、模块化和灵活性的设计可生产出高质量的纳米纤维。NS 8S1600U是一个模块化纺丝单元，配置有1.6米宽纺丝电极。最多可以将四台NS 8S1600U机组组合成年产量高达数千万平方米涂层材料的纳米纤维生产线。

灵活性

Elmarco公司的纳米纤维生产设备的原料可以是多种聚合物，并且可生产各种有机和可生物降解的纳米纤维。根据使用聚合物的不同，纤维直径可以从80nm到700nm（±30%）。此外，NS 8S1600U的设计还适用于各种类型的基材。

主要特点

	NS 8S1600U
每个单元电极数:	8
线上最多单元数:	4
纺丝电极幅宽:	1600mm
纳米纤维层有效宽度:	1600mm
排气通风量:	2500m ³ /hour
纺丝距离:	150-250mm

操作参数

需要操作人员:	1,5
基材速度:	0,2-40,0m/min
工作温度:	20-30°C
工作湿度 (RH):	20-40°C
启动时间:	最大 20 min
常规维修:	15 hours/month

(资料来源：“elmarco.com”)

PEGAS无纺布公司签署备忘录和理解协议并确认其有意为南非共和国的工厂购买Reicofil生产线

卢森堡/兹诺伊莫，2017年4月3日—PEGAS公司（以下简称“PEGAS”或“公司”）与REIFENHÄUSER REICOFIL公司及Co. KG生

产技术供应商签署备忘录和理解协议，确认其将为南非的新厂引进新生产线。

本协议的主旨是双方达成成为公司在南非的新厂提供Reicofil 4型纺熔生产线，2个S头、2个熔喷头的协议。预计到2017年7月完成生产线交付的最终协议。

“与生产技术供应商达成协议是完成在南非建新厂计划的一个步骤，在这个新地区，我们希望在BiCo配置中引进最先进的COMPACT生产线概念，从而为当地市场提供技术先进的产品。目前正在捷克共和国安装类似的生产线是世界上的第一条，我坚信这条生产线在实际运行状态下将证明它的品质优势，随后我们将在南非充分运用这一生产线。”PEGAS无纺布公司首席执行官FrantišekŘezáč董事会成员说。

(资料来源：“www.pegas.cz”)

Dilo集团参加INDEX展

国际非织造布生产商于2017年4月4日至7日汇聚瑞士日内瓦参加INDEX展览会。Dilo集团从纤维预准备到针刺加固详细地介绍整个机械程序。Dilo集团包括DiloSpinnbau, DiloTemafa, DiloMachines和DiloSystems公司，为供应商提供定制的生产线。

DiloTemafa通过几个开松程序为高速轻柔地开松长纤提供了新的可能性。



DiloSpinnbau的VectorQuadroCard

DiloSpinnbau的VectorQuadroCard首次在意大利米兰ITMA2015展会上展出，通过简单地快速切换中间部分，可将不同类型的梳理程序结合在一起。新的传送系统也可以灵活的生产平行、随机或凝聚的纤网。新的梳理喂入系统Unifeed将容量系统原理与开放式振动滑槽喂入相结合，可与新梳理机相匹配。

行业信息



DiloMachines 水平交叉铺网机 DLSC 200

DiloMachines新推出的水平交叉铺网机 DLSC 200通过电动机械喂入纤网，速度高达200m/min，可根据所使用的纤维来调整速度，并设定了新的交叉铺网技术标准。

DiloMachines新的刺针模块技术是将22枚针嵌入塑料支架，可应用于高刺针密度的针板。该模块可快速精确地镶入针板。它们应用Variopunch针刺技术，针迹分布产生的不良点通过可调整的刺针消除，故布面均匀质量更好。首次应用该模块技术是在意大利米兰ITMA 2015展会上的紧凑型生产线。

虽然该工厂的生产能力尚未公布，但新的工厂比尤妮佳在沙特的其它两家工厂都要大。这表明，该工厂已获得空间实施其计划并最终在王国实现了产量的翻倍。尤妮佳在2005年将一家当地的婴儿尿片制造商 Gulf Hygienic Industries改造成其子公司。5年之后，尤妮佳开始运营第二家工厂。

随着人口的增长，中东尿片市场正迅速增长。在2016年财年，尤妮佳在该区域的销售似乎增长了两位数。日本跨国公司也于2012在埃及开了一家尿片厂。

(资料来源: "https://asia.nikkei.com")

王子扩大婴儿尿片在越南、柬埔寨的销量

日本造纸公司马来西亚工厂供应四个东南亚市场

王子控股将开始在越南及柬埔寨销售用即弃婴儿尿片，这是日本纸业公司为扩大东南亚足迹所做的最新努力。

位于马来西亚的一家王子尿片工厂于2016年春正式营业，并将产品供应给两个新兴市场。新工厂生产品牌名为Genki的内裤型尿片，并已供应给马来西亚及缅甸。

与马来西亚和其它地方相比，越南急剧增长的尿片市场竞争对手较少。DSG国际控股占据了马来西亚市场超20%的份额，而日本竞争对手尤妮佳占据了泰国及印度尼西亚市场40-50%的份额。

据英国研究公司Euromonitor的调查，越南用即弃尿片市场从2016年开始，到2021年将增长140%，达到9.74亿美元。缅甸市场预计同期将扩大30%，至9700万美元。

为巩固其在这些不断增长的市场中的地位，王子将开展大量的促销活动，通过东南亚的电视广告促进Genki品牌的认知度。公司将以产品的触感及高吸收性来招揽顾客购买产品。

王子今年的目标是在4个国家中销售1亿个用即弃尿片。公司考虑将尿片出口到印度及菲律宾，并扩大在马来西亚的工厂。

(资料来源: "https://asia.nikkei.com")



DiloGroup 紧凑型生产线

该紧凑型生产线是专门用于生产高品质特种纤维（如碳纤维）针刺毡。包括实验室用小型生产线、生产造纸毛毯的大型生产线以及用于生产短纤针刺毡所有设备的产品组合。

Dilo集团为世界各地的非织造布企业提供了300多条生产线，专业技术可靠，并且可以根据要求提供整条生产线的最佳设备。这些高度现代化、创新的生产线是公司纺织研究中心经过不断的工程开发和产品开发的结果。

(资料来源: "www.dilo.de")

日本尤妮佳启动沙特第三家尿片工厂 新工厂可能使中东地区的产量翻倍

东京--日本尿片制造商尤妮佳在沙特阿拉伯开设第三家工厂，为其发展中东市场迈出重要一步。

新工厂紧挨着利雅得的另一个制造业中心，据说花费了几十亿日元（十亿日元等于918万美元）。连同尿布，工厂将生产卫生产品。

市场动态

服务合作伙伴帮助东北无纺布公司 (NNI) 为客户利基市场定制产品

最初，它被看作是不可避免的成本。但是这个以利基市场为重点的非织造布生产商发现，从OEM处购买零件和服务时，“价格”和“价值”之间的差异可以是一个竞争优势 - 并且会带来有意义的业务往来。

东北非织造布公司 (NNI) 在其位于美国纽约州罗切斯特的工厂生产工程无纺布和复合材料。NNI的质量体系 (ISO 9001:2008认证) 适用于它的两条高速针刺生产线、它的机械和热加工工艺以及它的定制分切操作。

根据董事长托德·金斯伯里 (Todd Kingsbury) 的说法，NNI提供定制纤维混合和多层复合结构的能力有助于实现其战略，成为“利基玩家”并“游泳于大鱼之间”。与所有服务利基的制造商一样，NNI的成功基于了解每个客户在质量、商业方面、独特成分、交付、转型和技术支持方面的独特需求，然后每次都能得以持续传承。



东北无纺布公司董事长托德·金斯伯里先生

金斯伯里先生说：“我们不是最大的企业，也不打算成为。我们想要的是定制我们的产品，以满足欣赏增值诉求的需求，拥有不是每个人都有的竞争的能力。”

销售可靠性始于生产的可靠性

金斯伯里在2013年来到了NNI。他的背景是制造和运营。他是二十世纪初的非织造布生产商股东，最终卖给了一家大公司。“我们的产品专为高温应用而设计，主要用于电气绝缘和太阳能发电，”他说。“但是我们也生产了用于过滤的无纺布，

这是我们NNI在服务的行业。”

当金斯伯里被招募到NNI时，他被告知他的主要焦点在于扩大客户群并进入新的市场。“当时没有太多有关运营的讨论，”他回忆说。“我们需要销售，当然。但是由于重复出现故障，我们的销量有限。我不认为有一个星期，我们没有计划外的停机时间。”

两条生产线

也许关于东北两条生产线的注释能说明情况。那两条 Asselin-Thibeau阿斯拉·蒂博 (现在的安德里茨无纺布) 生产线并不是新的。他们是从两家不同的面临财政困难的无纺布工厂收购而来。

Asselin-Thibeau阿斯拉·蒂博血统是公认的。它的祖先可以追溯到法国，年份是1912年 (Thibeau蒂博成立) 和1920年 (Asselin阿斯拉成立)。Thibeau蒂博在1956年出售了它的第一台交叉铺网机，并于1958年首次出售了它的针刺机。2005年这两家公司合并，2011年被奥地利全球供应商安德里茨收购。



NNI第一次针刺前的无纺布网

两条生产线除了门幅其他非常相似。它们包括纤维混合/进料、梳理、交叉铺网、牵伸、整合了针刺和卷绕的传统工艺步骤。用于机械整理 (轧光、热定型、压制、上光、层压、真火焰烧毛和定制切割) 的机床使NNI完成基本的产品定制。

生产协调员Jason Dills解释说：“重量高达2060 gsm，宽度可达4.725 m我们都可以做。织物厚度对于我们几乎无限制，纤维组合和密度选择在我们的重量范围内”。

第一：改变心态

自2005年初由Metapoint Partners收购以

市场动态

来，NNI已经受益于对工程技术资源的一些重大投资，在罗切斯特新工厂运营的巩固，ISO认证的通过以及推出了多项新产品线。但像大多数小型利基公司一样，营运资金紧张。

金斯伯里说：“在我到任之前，管理层指令是根据价格和速度进行购买，这驱使我们处于维护心态。零件采购价格最低的。我们采取捷径方式让机器再次运行。我们修补了东西，但不是实际修复它们。随着时间的推移，这增加了设备的费用。”

“设备的设计或生产线产能基本没有任何问题，”Dill说，“但是使用20年的设备，通常很难找到备件。有很多次我们搜索eBay。原始设备制造商如安德里茨甚至没有被邀请出价，因为不管怎样假设他们的价格太高了。”

美国安德里茨无纺布区域服务销售经理Anthony Laforge先生之前已看到了这种观点，并完全理解这一点。“评估价格时要考虑很多因素，”他说。“有些客户自然认为我们的价格会比较高。我认为，该是我们向客户提供完整故事，以帮助他们了解价值和最初成本了。”

例如，我们的更换部件和X品牌复制部件可能看起来完全相同。它们都是金属的，并且具有相同的形状，但通常这也是相似性结束的地方。因为我们的部件已经设计完成了一项特殊任务。它具有特定的冶金规范，并且加工达成精确公差。它以特定的方式完成，并通过了恰当的质检。

另外，我们的部件有专家组成的梯队提供支持，他们可以回答问题并给予指导。在托德抵达之前，我们试图拿到NNI这个案子，但并不是很成功。当他上任时，事情发生了变化。”

提高可靠性的分步计划

金斯伯里的第一个行动之一就是带来过去曾经共事的“老板”担任维修顾问。这位男子汉即刻全心全意投入到帮助建立一个新的维护团队中去。金斯伯里说：“总而言之，我们依靠时间、金钱和技术，逐一审查了我们的设备，确定了可靠性问题并

确定了维护工作的优先次序。”

随着团队中新朋友到来，与NNI主要OEM供应商之一的安德里茨合作的新接触有了希望。迪尔解释说：“我们授权我们的团队超越价格，考虑总价值。我们分析了避免机器因为‘节省’小钱购买廉价部件而停机但又不完全解决问题的价值。”

由于内部有能力维护人员能够以良好的方式支持OEM，NNI联系了安德里茨的Laforge。“安德里茨熟悉我们的设备-这从来没有问题，”迪尔说。“但我们不知道的是，因为我们是一个小的利基玩家，他们是怎样渴望与我们合作。令人惊讶的是，当我们遇到问题时，他们热切回答我们的问题，并建议可以提高可靠性和性能的升级。随着时间的推移，我们开始将他们视为具有互补技能的合作伙伴，而不是局外人或对手。”

第一次测试可能也是最后一次

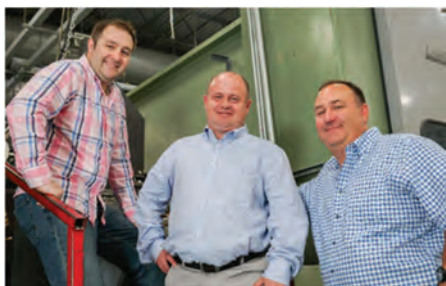
只有两条生产线在运行，在NNI调度关机进行升级是一件很大的事情。“当一条线停机，我们基本上就是半生产，”迪尔说。“这就是为什么最终我们终于孤注一掷采纳安德里茨方案升级我们的小型生产线，我们知道限制停机时间它至关重要。”

该项目是使用最新的ANDRITZ安德里茨控制和逻辑在独特的双针刺设备上升级电子设备。生产线的正常运行时间由于破旧组件的小故障和错误而遭到麻烦。NNI征询了几家本地公司和安德里茨的报价。

“安德里茨不是最便宜的，但它也不是最贵的，”迪尔回忆说。“这个他们青睐项目的拍板是因为他们承诺他们不会离开我们的车间，直到一切都运行。我们对此表示过怀疑，认为一旦达到他们的预计工时，他们将会乘下一趟飞机过来。”

第一个升级项目虽然成功，但并没有按计划顺利进行。由于外部原因，来自法国的关键部件出货被延迟，导致时间表变动。

“那时对我而言压力巨大，”Laforge说。“这里，我多年来一直呼吁这个工厂寻求机会展示我们能做什么。而现在，我们不



NNI的生产协调员Jason Dill（左）和安德里茨无纺布（中心）Anthony Laforge，以及NNI总裁托德金斯伯里

市场动态

但落后，还有一些毛病。非常感谢杰森、托德和整个梯队一直耐心工作直到问题解决。说句公道话，比较我们所想所做的，我们需要安德里茨更多的支持，”Dill说。

“在我们收购之前，我们并不知道在机器上所做的一切，而且我们以前的修补大部分都没有记录在案。所以，在很多方面它不是条标准线。得从安德里茨方面派出更多人手，让我们恢复运行，这比我们任何人所想的都花费了更长的时间。”

安德里茨无纺布北美总经理亚历山大·比特（Alexander Butte）表示：“托德和他的团队对我们非常开放，引起了我们的关注。”“他们保持有一个完整的时间表，但如果没有两条生产线全负荷生产，他们无法实现盈利。我们一起做了调整，我们能够解决问题。他们决定进入合作伙伴关系，我们之间没有了传统的供应商 - 客户的围墙，而今他们已得到回报。”

比计划好

金斯伯里说：“我们两家公司从这个经验中学到了很多东西。我们之后执行的两次升级，是更复杂和更昂贵的项目，远远超过计划。”

共同合作的第二次主要机会是升级交叉铺网机的电子和驱动单元。它于2016年10月完成。“我们有两台类似的交叉铺网机，”Dill说。“现在几乎不可能再找到备件。所以安德里茨建议升级其中一台，并使用这些部件来保持另一台运行，直到我们有资金了再进行升级。它节省了我们的流动资金，是一个很好的解决方案。”

安德里茨估计用七天时间进行所有的升级工作。“这一次，我们在我们这边准备好了，”狄尔说。“四天之后，安德里茨已经完成了升级，启动了生产线，确保运行良好，我们完成了项目。自此我们再也没有了意外的中断。”

“最近升级的电子产品和电动机是在2017年2月的针刺机上进行的。我们方面对设备的位置，定位等方面有很多考虑。”金斯伯里说：“我们想确保一旦安德里茨到达，他们就可以开始工作。货物准时到达，工作进展顺利。”

独特的功能

“虽然我们的设备不是最新的设备，但我们在这里可以提供的一些产品是独一无二的。”金斯伯里说：“从我们这方面来说，与安德里茨的合作关系是将我们的设备进行微调和升级，成为顶级产品，从而扩展到其他增值市场。伙伴关系也随着时间的推移而增进。”



NNI的生产线助理Pete Crossman在检查正在卷绕的产品

一些更有趣产品是复合材料行业使用PET、PP、电子玻璃、碳和芳族聚酰胺纤维制成的产品；一种耐火复合材料进入汽车、卡车和公共汽车座椅；酚醛树脂饱和聚酯过滤介质，用于从自动变速箱和其他侵蚀性流体流中除去颗粒；以及用于发动机进气过滤的饱和乳胶的多层复合材料。

金斯伯里说：“我们今天的生产线比我四年前来到这里时更加可靠，我们有能力生产出我们以前没有的耐高温和耐化学品的无纺布。我们需要安德里茨，我们需要他们的人。我们这里有非常好的聪明人，但比起他们还不够。有一些技术问题，我们只是没有合适的内部资源来解决。我们的业务太小没有技术和服务伙伴。”

用粘合剂实现目标

Bostik是一家全球领先的粘合剂企业，特别是在工业、建筑和消费市场方面，在INDEX™17展览会，使用互动展台展示其Smart@work粘合剂技术和专长。

贴合、吸收、柔软和气味是一次性卫生用品生产商的关键。Bostik展示其粘合剂产品和工艺专长，如何帮助一次性卫生用品生产商有效地制造更好的产品。

Bostik全球非织造部门战略营销总监Diane Toonen说：“我们相信创造一个互动的体验让客户参与其中，讨论Bostik如何帮助

市场动态

他们实现目标。这是Bostik一个明确的重点，我们相信我们的全球认知度和近50年的一次性卫生产品经验，可以为我们的客户增添价值。”

Bostik全球非织造部研发总监Darius Deak也做了一个关于“世界第一”胶粘剂的精彩演讲。
(资料来源:“INDEX17”)

卫生产品自动化设备

Cellulose Converting Solutions (CCS) 是一家意大利公司，开发和设计高度自动化的设备，用于生产一次性卫生产品。CCS在INDEX™17展览会上展示了一些亮点。

在成人失禁产品方面，CCS提供以下内容:

- 加工成人尿裤，采用横向工艺（两片或三片产品结构），保证速度为300 rpm；
- 加工成人三角尿裤，采用“零”修饰片材或具有相同前后材料或不同前后材料的“低”修饰片材，保证速度为350 rpm；
- 成人尿裤和成人三角尿裤具有最新型弹性功能；
- 减少木浆的使用，生产更薄型的产品；
- 独特的单片包装。

在底垫部分，CCS提供一个优质的底垫加工，保证速度为400rpm或300m/min，能力为36g/m²，高容量的绒毛生产可达1700 kg/h（处理或未处理的木浆）。在婴儿纸尿裤和训练裤中，CCS提出：

- 婴儿训练裤横向加工；
- Sky生产线可达800rpm或400m/min，适用于开放型尿裤等；
- “零”修饰片材用于开放式尿裤的对称背材，“低”修饰片材用于开放式尿裤的不对称背材；
- 垫层形式设计用于高SAP/绒毛比（3D/2D形/平面配置）
- 单片包装
- 用新一代芯层来降低木浆的应用。

在卫生巾和轻便失禁用品部分，CCS提供:

- 新型轻度失禁产品生产，具有较高的性能，干法造纸和绒毛配置中，保证速度为1000 rpm或300 m / min

- 一种新的高速卫生巾生产线，速度为1500 rpm或350m / min甚至更高。使用该HS生产可以获得的配置如下：绒毛芯层加

工，干法造纸芯层加工或“柔性”加工，能够制造绒毛和干法造纸。

据CCS介绍，“消费者就是我们的合作伙伴”。这意味着对设备的专业审核以提高效率，同时向所有消费者/合作伙伴提供专业的设备培训和技术支持；在CCS或竞争对手的设备上独立执行升级和重建操作。

在研发方面，CCS利用与Alcatara合作开发的突破性技术，重新应用航空航天技术在吸收结构内的超吸收聚合物的在线检测。该技术的新设计将纳米传感器安装在生产线上。可以对超吸收应用进行即时定性和定量评估。展会期间展示了其中包含真正的尿布芯层的产品。

(资料来源:“INDEX17”)

Norafin展示以工业为主的产品

Norafin是科技非织造布领域解决方案的创新供应商，在今年的INDEX™17展会上展示其在工业、卫生和医疗领域应用扩大的产品范围。

公司产品范围包括面密度从16g/m²到800g/m²的材料。由各种聚合物和天然纤维制成的不同颜色的非织造布。

对于卫生和医疗用途，使用具有不同图案的、改善吸收性的非织造布。Norafin Komanda是公司的耐热非织造布防护服的类别，用于工作服材料。

此外，Norafin已尝试对亚麻进行加工并进行水刺加固。由于其抗紫外线性、积极的生态平衡和自然条件，亚麻纤维可用于家居市场，例如墙纸。由于其天然成分，由亚麻和粘胶阻燃纤维组成的亚麻墙纸，创造了良好的室内气候，通过其绝缘性能维持人类健康因素，并且在生命周期结束后可以降解。

(资料来源:“INDEX17”)

Tenowo公司为新厂房和新生产线举行盛大开幕仪式

2017年5月16日—北卡罗来纳州的Lincolnton。2017年3月23日，Tenowo公司，隶属于工程非织造布制造商Hoftex Group AG，在北卡罗来纳州Lincolnton的印第安Creek工业

市场动态

园为扩建工厂举行盛大开幕仪式。扩建的部分包括新增7万平方英尺的厂房和新生产线的安装。

Lincolnton工厂成立于1992年，是一家为汽车、工业和服装工业提供装饰和功能性非织造布的领先生产厂家。最近的一次扩张引入1000万美元的投资，是自2009年以来的第四次投资。总的来说，Tenowo已经投资了2000万美元，扩大了现有的生产力和新生产线的安装。

新生产线涉及将Tenowo独特的Multiknit技术从德国移到美国，这是北美地区这种技术唯一的生产力。Multiknit产品主要应用于汽车座椅，比传统产品具有更高透气性和改善了温度调节的优点。

“我们的母公司Hoftex Group AG，将继续在该工厂投资来支持我们的增长，” Tenowo公司的总裁兼首席执行官Chris Peart说，“Tenowo公司的董事会和我们的所有者都相信Lincolnton的团队，并且这是一个强大的动力。他们也相信这个领域的机构以及支持我们的能力。特别是林肯经济发展协会(LEDA)、林肯县和北卡罗来纳州的支持对于公司的前进是至关重要的。”

Tenowo的全球常务董事Harald Stini在会议上说：“这是Tenowo的一个旗舰项目。这是一个很好的例子，一个拥有不同技能的国际团队，在预算内以最高的质量标准完成一个项目。团队和项目反映了我们公司的价值观和指导原则：信任、公平、协作和合作。” (>>> 下转50页)

Beaulieu在比利时投资生产纤维

Beaulieu纤维国际将投资1500万欧元用于新的纤维生产技术

欧洲领先的聚烯烃纤维生产商Beaulieu纤维国际将展示其最新的纤维创新技术，以满足如汽车、地板和土工布市场的需求。

“最近，Beaulieu纤维国际获得延锋汽车内饰供应商技术创新卓越奖，这仅是其与客户密切合作开发创新产品的一个例子，使他们能够向市场推出更环保、更轻、更好的产品。” 公司报告称。

(>>> 下转47页)

投资

为了支持这一点，Techtextil的参观者将可以了解到Beaulieu纤维国际在比利时工业界投资的新型纤维技术。2017年11月将投入使用1500万欧元的投资。它是应对未来挑战和客户需求而扩大纤维生产持续计划的一部分。

Techtextil的参观者还将了解到公司即将推出的新产品，并探讨Beaulieu纤维国际广泛且多元化的普通、中空、三叶及双组份纤维产品组合。

创新战略

Beaulieu纤维国际工业部销售和市场经理Donald De Deygere说：“作为欧洲聚烯烃短纤维生产的领导者，我们致力于保持技术创新的领先地位。”

“创新战略是活动的基石，各个奖项也是证明。我们自豪地宣布2016年-2018年间，在比利时和意大利的新兴工业投资将达到8000万欧元。”

Beaulieu纤维国际是欧洲最大的聚丙烯短纤维(PP纤维)生产商。该公司是Beaulieu国际集团的工程产品业务部的子公司，总部设在比利时。Beaulieu纤维国际在欧洲有三个生产基地，其中两个在比利时，一个在意大利。为卫生、土工布、地板、汽车、过滤和室内装饰等行业的客户提供密度为1.0~500分特的PP纤维。

(资料来源: "www.kohantextilejournal.com")

Ace 非织造私有公司

Ace 非织造私有公司(Ace)成立于2014年8月，最初在印度经营一家热风粘合非织造布工厂，并于2016年12月开始运输达到商业数量的货物。根据公司的介绍，这是印度第一家生产此类非织造布的公司。

Ace由R. R. Maheshwari及Deepti Maheshwari领导。Maheshwari目前是Ginni非织造公司的业务主管，该公司是水刺非织造布以及消费湿巾的制造商。Ms. Maheshwari毕业于德里的印度理工学院纺织专业，在产业用纺织品及非织造布方面具有经验，并在海外接受过非织造技术的培训。

(>>> 下转47页)

市场趋势

应用于电池隔膜的非织造布的需求趋势

非织造布是镍氢电池的选择

电池隔膜是通过插入正电极和负极之间来维持电解液，以防止两级的接触。用于分离的是微孔材料，如非织造布、纸或微孔薄膜等。这些隔膜被特定类型的电池所使用，主要是镍氢电池、镍镉电池和锂电池。在这些电池中，对分离膜有最大的需求是镍氢电池。

尽管镍氢电池已被广泛用作便携式设备的电源，它已经被高性能的锂电池取代，而便携式设备的小型镍氢电池的产量也大幅下降。

虽然对大型镍氢电池的需求已经扩大，因为它由混合动力汽车的动力源所采用，但现在它们主要用于各种类型的汽车。在日本，镍氢电池的产量一直在下降，在2000年达到了峰值102.6万件，在2003年之后达到了3000亿的水平变化，尽管在2016年增长到了4.2亿件。

需求前景

用于镍氢电池的非织造布是用造纸技术形成的网进行水刺或热加固的技术制成。技术材料包括聚烯烃类，如聚乙烯或聚丙烯。尽管制造这些产品的非织造布制造商是日本Vilene、Daiwabo Polytec、Nippon Kodosh和三菱造纸厂，但日本Vilene目前在市场上占据主导。

尽管日本的分离材料的需求量估计在1600万平方米，但预计未来的需求不会大幅增长。汽车制造商正在将混合动力汽车的动力源从镍氢电池转换为锂电池。目前使用镍氢电池的主要的混合动力汽车是丰田Aqua和Prius。然而，在过去的一年里，这些车辆中有一些正在使用锂电池，并且随着每一个型号的升级，这个百分比也在增加。这将会减少镍氢电池的需求。

锂电池的使用越来越多，所以在这种情况下，非织造布隔膜不能指望以镍氢电池的形式生长。然而，这些电池类型主要使用微孔薄膜。当然，这可能会改变，而且已经有一些锂电池使用非织造隔膜。如果这种转换继续，非织造布的增长也会显现。

(资料来源: "www.nonwovens-industry.com")

福伊特和特吕茨勒推出了新的湿法水刺非织造布设备的安全标准

- 非织造布安全生产的基础
- 造纸和纺织设备证明标准的结合
- ISO发起的标准化过程

以VN 3260/TN 0790标准的形式，福伊特造纸和特吕茨勒非织造布为湿法水刺非织造布(WLS)设备设计了新的安全标准。该标准将帮助非织造布生产商确保其设备的安全可靠运行。它还达到了生产和质量方面的预期提供了基本前提。

福伊特和特吕茨勒共同开发了湿法和水刺非织造布的制造工艺。设备所用的材料，部分是由造纸设备部件组成，部分是由非织造设备的部件组成。湿法水刺的非织造布的制造过程与造纸类似：一种由水和40毫米长度的纤维组成的悬浮液，通过金属网形成了均匀的纤维垫的形式。水缠绕或水刺的过程产生了加固的非织造布，如果需要，可以有纹理。非织造布的干燥和缠绕是在其他机械部件上完成的。

在新文件中，新开发的标准结合了福伊特和特吕茨勒的造纸和纺织机械的安全标准，这样就定义了对新的混合机器的安全要求。

国际标准化组织(ISO)已将此安全标准纳入制定国际标准的基础，以便在全球范围内取得更大的影响。

(资料来源: "http://voith.com")

Rockline公司创建新工厂——Iatric Manufacturing Solutions负责在田纳西州生产符合FDA规定的湿巾

2017年3月30日，在威斯康星州希博伊根市，Rockline宣布，已经成立了一个新的子公司Iatric Manufacturing Solutions，致力于设计和制造符合FDA规定的湿巾，并应用于消费者、医疗保健、食品服务和行业中，来帮助培育健康的环境。

Iatric将在田纳西州的Morristown创建1个在FDA注册的先进的、面积43.5万平方英尺的新工厂。这家全资子公司的诞生源于对Rockline的创新湿巾产品需求的快速增长，这些产品的设计支持更健康、更符合个人卫生环保的产品。新工厂将于2018年开始

市场趋势

运行，预计员工250人。

“Rockline处于湿巾产品创新和设计的前沿。随着Iatric的创建，我们将继续公司的传统，将伟大的想法转化为便利的解决方案来帮助人们的生活更清洁、更健康。”Rockline公司承包制造服务的副总裁Will Green说。

Rockline正在经历巨大的成长，增加了新的制造厂和就业岗位。在2015年，Rockline在阿肯色州拉塞尔维尔开了一个24万平方英尺的工厂，并且在其美国阿肯色州斯普林代尔的工厂增加了面部擦拭产品的生产。Rockline目前在阿肯色州、新泽西州和威斯康星州运营着5家制造厂。

(资料来源:“www.textileworld.com”)

卫生保健产品市场到2022年将达120亿美元

根据MarketandMarkets出版的“2022年全球预测”中新的市场研究报告，“医疗保健面料的市场，按原材料分类（聚丙烯、棉、聚酯、粘胶、聚酰胺），织物类型分类（无纺布、编织、针织），应用分类（卫生、敷料、服装、窗帘、毯子和寝具、室内装潢），2017年市场估计为94.8亿美元，预计到2022年将达到129亿美元，2017年至2022年的复合年增长率为6.4%。

消费者对卫生用品的意识不断提高以及医疗保健面料质量的提高有望推动医疗保健面料市场在预测期内的增长。

在原材料分类中，预计医疗保健面料市场的涤纶部分的全年复合增长率最高。由于涤纶制成的织物强度高、拉伸强度高，所以聚酯面料的高增长可归功于其低成本及高性能。它们具有高度耐用、耐化学腐蚀、抗皱、耐磨，并具有结构稳定性。因此，聚酯的需求预计会有所增长。

在织物类型中，医疗保健面料市场的无纺布材料部分预计在预测期内以最高的年均复合增长率增长。无纺布用于各种卫生产品，从婴儿尿裤到成人失禁产品。无纺布由于其优异的吸收性、柔软度、平滑性、强度、舒适性，以及适应性、拉伸性和成本效益而被用作传统纺织品的替代品。

亚太地区医疗保健面料市场预计将以最高的年均复合增长率增长，亚太地区中产阶级人群的可支配收入增加使其成为医疗保健面料制造商的有吸引力的市场。由于生活水平提高，对个人使用医疗保健用品的关注和人口日益增长，该地区对医疗保健面料的需求很高。

在应用分类中，医疗保健面料市场的卫生用品部分预计在预测期内年均复合增长率为最高。医疗保健面料的卫生用品需求主要是由于亚太地区新兴国家卫生巾和婴儿尿片消费量的增加。此外，人们日益增长意识和可支配收入的增长加上新生儿和育龄女性人口的增加，也将促进医疗保健面料市场的增长。

(资料来源:“www.nonwovens-industry.com; www.liaobest.com”)

有机女性护理市场最新报告发布

Research and Markets近期发布“全球有机和天然女性护理市场2017-2021”报告。全球有机和天然女性护理市场预计在2017-2021年期间将达到7.09%的复合增长率。

报告涵盖了2017-2021年全球有机和天然女性护理市场的现状和增长前景，为了计算市场规模，报告包含了有机和天然女性护理产品的零售收入。该报告还包括了在这个市场上运营的主要供应商的讨论，对这些天然产品的需求正在增加，是由于它们在维护卫生方面的优势。

市场的一个趋势是对天然和有机产品的需求不断增加，尤其是对天然和有机女性护肤品的需求日益增加，因为它们亲肤和环保性。这些产品由非转基因（non-GMO）认证的有机棉制成，不含人造染料、人造丝和芳香剂。

根据报告，市场发展的主要驱动力来自日益增长的对卫生和相关产品关注的意识。女性卫生护理产品如卫生巾、卫生棉条和护垫已进入市场较长时间。但是，正确使用这些产品的意识很低。然而，随着世界各地供应商和政府如火如荼的广告和宣传，受教育人口的日益增加，有助于提高对这些产品的认识，以及保持恰当的卫生习惯和正确的处置方式。

市场趋势

此外，报告指出，市场面临的主要问题是假冒产品的存在。假冒产品是市场上最大的挑战之一，由于它们便宜而且是仿冒品，它们会影响公司与真实产品的品牌形象和利润。据报道，仿冒卫生巾含有对妇女造成子宫癌的有害物质。2014年在美国，许多执法机关查获了假冒Always品牌的卫生巾产品。

(资料来源: "www.nonwovens-industry.com; www.liaobest.com")

世界最大海湾桥中的Fibertex非织造材料

Fibertex公司的非织造材料Formtex®已被选为作为世界上最大的桥梁项目之一的供应商 --- 修建连接科威特市和Subiyah地区的36公里的海湾大桥。该桥连接科威特市和新的Madinat al-Hareer (丝绸之城)，一个1000亿美元的城市发展项目，其中包括1,001米高的世界第一高塔Burj Mubarak al Kabir巴布达·穆巴拉克·卡比尔塔和国际Bubiyah海港。丝绸之城预计将在连接中东和亚洲方面发挥关键作用。

该项目包括27公里的堤道，以及一座美丽的高架桥，宽200米，高23米。项目完成后，该桥将把科威特市与Subiyah地区之间的距离从104公里缩短到36公里，从而将通行时间从90分钟缩短到30分钟。该桥是科威特最大和最具挑战性的运输和基础设施项目之一，将成为晚埃米尔时代的纪念碑。

空气中的盐水、高温和二氧化碳含量的升高加剧了对混凝土结构的破坏。因此，按照项目业主要求，需要创新的解决方案以确保钢筋混凝土的使用寿命超过120年。

该项目是作为设计-建造-运营 (DBO) 项目进行的，承包商必须在部分运营期间支付维护费用。因此，特别关注在桥梁的整个生命周期内找到财务上可持续的解决方案。

“我们感到非常高兴世界领先的承包商和顾问已经选择了，由于Formtex® CPF材料的高品质、灵活性和可塑性，这意味着混凝土可以达到最佳的耐用性，同时最大程度地减少维护成本。” Fibertex Nonwovens

的产品经理Michael Møller说。

这家来自奥尔堡的丹麦公司Fibertex将提供150万平方米的Formtex®非织造材料，用于铸造桥面和桥墩。Formtex®用于混凝土构件的现场铸造中，Formtex® CPF作为内衬材料，从混凝土结构中排出水，从而降低混凝土的水/水泥 (w / c) 比例，可以形成没有气孔的、表面光滑均匀的混凝土铸件，从而确保混凝土表面能够承受沙子和盐水的强烈冲击。这不是Formtex®第一次入选国际重大项目，但是迄今为止最大的项目。

“我们花了很多时间在科威特进行咨询、测试，并着重对Formtex®在实践中的应用进行培训。记录显示和高服务水平证明了Formtex®与其他直接竞争解决方案和其他供应商相比是最佳解决方案，” Møller说。Formtex®非织造材料在许多以往项目作为坚实的验证基础，证明了Formtex®可以作为科威特桥梁建设项目合格的材料。

“毫无疑问，Formtex®的入选，证明了它能够在施工前进行的各种实验室测试中优先确保混凝土质量。此外，Formtex®非织造材料是业界知名的可提供高品质产品的公司，我们通过有效的质量保证体系来确保品质。” Møller说。

该丹麦公司通过过去十多年的努力，在与其他两名候选者的激烈竞争中胜出，不辱使命，最终赢得了该项目的供应商资格和1,500,000 平方米的订单。

(资料来源: "www.fibertex.com; www.liaobest.com")

跨国公司决胜中国尿片市场

两家世界上最大的一次性尿片制造商在刚过去的盈余季节显示出了在婴儿尿片市场的销量疲软。金佰利 (Kimberly-Clark) 和宝洁 (Procter & Gamble) 公司表示，这种结果源自各方面的原因，但是将专注于产品类别的创新来帮助企业反弹。

“我们专注于创新，”金佰利首席执行官Tom Falk说，“作为消费者喜爱的品牌，我们的工作就是专注于品牌创新。”



Formtex® 易安装的混凝土部件



60米长，25米宽的桥跨储存在沙漠中，然后被运送到海湾

市场趋势

创新将有助于公司在未来几个季度将尿布及其他产品的销售回报提到的较高水平。上月底，金佰利报告说，婴幼儿产品业务的销售量减少主要由公司个人护理部门的轻微下降造成。据报道，Huggies好奇尿片的销量在第二季度中呈现个位数的下降，而好奇婴儿湿巾的销量为中等个位数的增长。

高管人员将销量疲软归咎于两个主要经济趋势 -- 由于该产品类别的竞争加剧，以及该类别的人口统计数字降低，主要是北美和韩国等主要市场的出生率下降所致。

根据6月份美国疾病预防控制中心发布的人口数据，今年的出生人数下降了1%，使得每1000名15岁至44岁妇女的一般生育率达到62。这一趋势是由于青少年和20几岁人群出生率的下降。30几岁和40多岁妇女的出生率有所增加，但不足以弥补较低年龄群体妇女的出生率下降。

Tom Falk认为出生率下降是暂时的，“出生率下降有很多原因，”他说。“但是，总的趋势是千禧年一代会晚些再要孩子，但只要最终有同样数量的孩子出生，出生率就会自我矫正。”

尽管金佰利在北美强劲竞争的气候下努力弥补低出生率引发的销量下降，但是也坚定了它的信念 -- 中国市场仍然是公司的亮点。

在这个新生儿数量是美国5倍的市场，金佰利成功地提供了一流的创新，将其转

化为七级产品和优质的拉拉裤。

对于金佰利的竞争对手，宝洁公司在其财报年度第四季度报告其尿布业务的疲软，也同样把中国市场列为重点。由于市场竞争激烈，宝洁的婴儿护理销售额出现小幅下滑，公司表示中国市场的疲软是主要原因。

为了对抗竞争对手，今年早些时候，宝洁公司在其帮宝适Pampers品牌下推出了一款优质拉拉裤，并将在本月推出新腰贴尿布片以扩大超级优质尿片的品种。在日本制造的尿布，都会有一句宣传语，描述产品是日本医院的首选。

Tom Falk补充说：“中国是一个至关重要的国家，尿布市场对我们来说是一个很好的机会，所有的销售增长都来自高端市场。”

在今年三月份，宝洁公司的高管对分析师承认自己在进入中国市场方面犯了错误，低估了中国消费者对超级优质产品的需求，但他们相信调整战略将会产生更有吸引力的成果。

在婴儿尿布之外，宝洁在女性卫生领域受益于其卫生巾业务的创新，包括棉质面层和可吸收高达10倍重量的专用吸收材料在内的改进，从而推动了面对青少年人群的销量，并有助于推动女性高端卫生市场的发展。

(资料来源: "www.nonwovens-industry.com; www.liaobest.com")



Asia Nonwoven Fabrics Association

ANFA is the only organization which represents the nonwovens industry in Asia

ANFA aims to take a more important role toward expanding the growth of the nonwovens business for the benefit of all members

For further information:

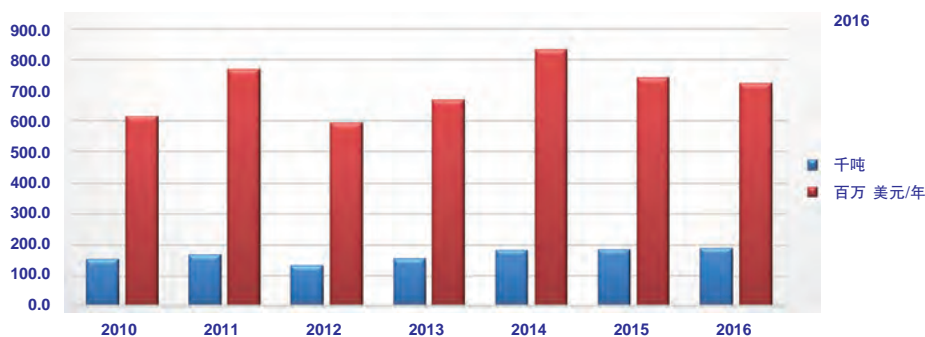
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2016年台湾 非织造材料 产量

台湾非织造材料产量 (2008~2016)

资料来源: 台湾区不织布工业同业工会

	2010	2011	2012	2013	2014	2015	2016
千吨	150.0	164.8	130.5	153.1	181.5	183.7	188.0
百万 美元	614.1	765.1	591.8	667.2	833.4	739.3	721.8
美元/公斤	4.09	4.64	4.53	4.36	4.59	4.02	658.1



2016年印度 尼西亚非织 造材料产量

印度尼西亚非织造材料产量 (2011~2016)

千吨

	2011	2012	2013	2014	2015	2016
热粘合					4.2	3.6
针刺					33.3	40.6
水刺					5.0	5.5
纺粘/熔喷					25.9	27.8
其它					0.4	3.6
合计	-	-	-	-	68.7	81.2



聚酯纳米纤维和聚间苯二甲酰间苯二胺（间位芳纶PPTA）短纤维的应用

Mie Kamiyama 博士
帝人集团

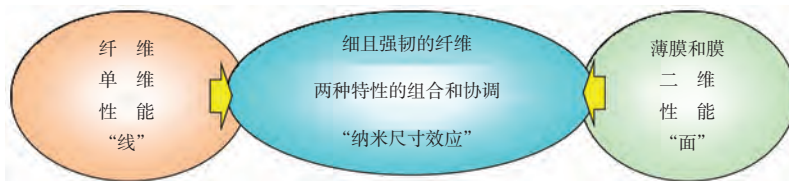
帝人集团概要

集团业务构成

- 芳纶纤维业务集团
 - Teijin Techo Products Limited
 - DuPont Teijin Advanced Papers (Japan) Limited
- Teijin Aramid B.V.
- 新业务开发集团
- IT业务集团
 - infocom Corporation
- 纤维产品市场业务集团
 - N.I Teijin Shoji Co., Ltd.
- 医疗、医药业务集团
 - Teijin Pharma Limited
 - Teijin Home Healthcare Ltd.
 - Braden Partners L.P.
- 薄膜业务集团
 - Teijin Films Limited
 - Teijin DuPont Films Japan Limited
 - DuPont Teijin Films U.S. Limited Partnership
 - DuPont Teijin Films U.K. Limited
 - DuPont Teijin Films Luxembourg S.A.
- 塑料业务集团
 - Teijin Chemicals Ltd.
 - Teijin Polycarbonate Singapore Pte Ltd.
 - Teijin Polycarbonate China Ltd.
- 聚酯纤维业务集团
 - Teijin Fibers Limited
 - Teijin Polyester (Thailand) Limited
- 碳纤维业务集团
 - Toho Tenax Co., Ltd.
 - Toho Tenax Europe GmbH

帝人对纳米技术的展望

- 1) 挑战极限的更纤细*、更强韧纤维技术
*更小的纤维直径
- 2) 目标领域和解决方案



Nanofront 的应用



比较：纳米纤维制造工艺制程

纳米纤维的生产制程	Nanofront 海岛型复合纤维	静电纺丝	共混纺丝
产品	长丝	不织布	短纤维
直径的均匀性	好	不好	不好
强度	5cN/dtex	< 1cN/dtex	纤维短, 不可测试
实用性	好	不好	不好
生产率	好	不好	好

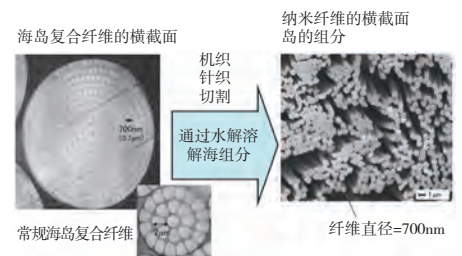
公司测试结果, 无证书

Nanofront 特性

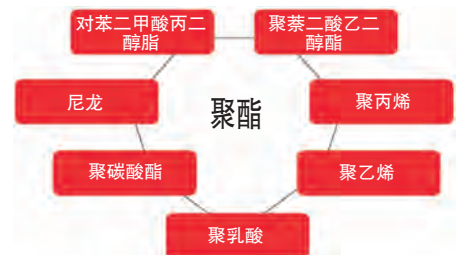
纳米纤维连续长丝的优点:

- 纤维直径非常均匀
- 高强度: 各种应用 (纺织, 针织, 不织布, 纱线)
- 制程简单: 高生产率, 对生态环境友好
- 聚合物变化: 聚酯和聚乙烯, 尼龙6, 聚乳酸等

海和岛的横截面及分离工艺



Nanofronts采用的聚合物

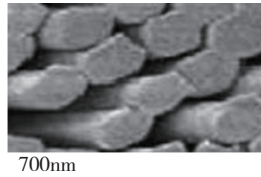


色彩: 掺入颜料:

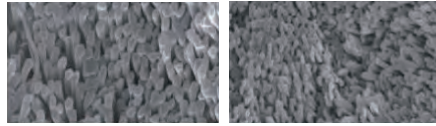


技术信息

更小的纤维直径



700nm



400nm

200nm

纳米长丝的特性

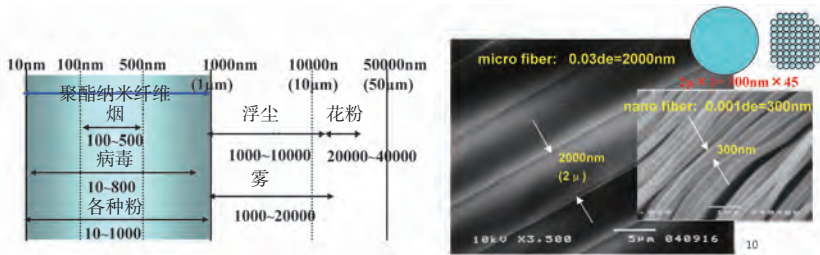
● 特性

长丝类型;

均匀的纤维直径; 制成简单

	直径 (nm)	细度 (denier)	强度 (g/denier)	伸长 (%)
超细纤维	2000	0.03	3.0	30-40
纳米纤维	800	0.007	6.0	30
	480	0.002	5.0	30
	300	0.0016	3.4	20
	36	0.00001	试验阶段	

● 纳米颗粒尺寸



纳米效应

表面积 10-100倍的比表面积	吸附 凡得瓦力具有改性聚合物的化学功能
分布 利用纳米纤维之间的纳米多空区域 	分离 孔径=约为纤维直径尺寸

利用纳米效应的纳米纤维应用

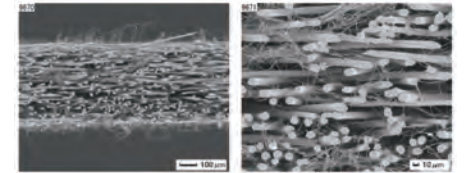
纳米效应

	防滑	柔软	光散射	擦拭	过滤
产品					

经过十多年的开发研究和市场化, 各种产品及应用已经推出

纳米纤维过滤材料

材料: 700nm纳米纤维与聚酯短纤维混合的片材



高性能: 低压降、高效率=节能、耐久

技术要点:

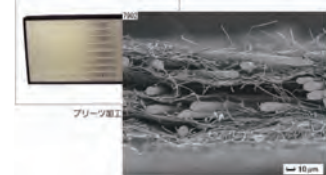
- 1) 每根纳米纤维均匀分布
- 2) 与其他纤维组合形成各种精确的多孔结构

空气过滤器

Nanofront® filter A



Nanofront® filter B

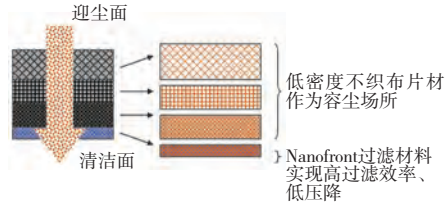


样品	压降(Pa) @5.1 cm/sec	效率(%) 0.3µ粒子	PF 高性能指数
传统熔喷发动机滤清器	14	9.4	3.0
Nanofront A	12	26.3	10.8
高效空气过滤器	190	99.9	15.5
Nanofront B	50	99	39.1

技术信息

空气过滤器的设计

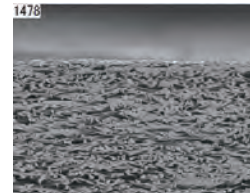
高效、耐久：多层过滤器



过滤器寿命：含有0.1% JIS8号人工尘的气流通过过滤器，压降达到2000Pa的时间
 过滤效率：捕获0.3微米粒子的比率

液体过滤器

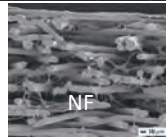
纳米纤维片材	性能
克重 g/m ²	10.1
厚度 μm	25.8
空隙率 %	72.2
孔径 μm平均/最大	0.7/1.5
流量 100cc/sec	1.2



高效、耐久：多层过滤器

样品	常规不织布	纸	有nanofront层的不织布
厚度(mm)	1.7	0.5	5
密度(g/cm ²)	0.17	0.19	0.042 0.051 0.064 0.15 - Nanofront片材
容尘量(g/cm ²)	273	54	922
寿命(min)达到2000Pa	40	16	150
过滤效率(%) 0.3微米粒子	70	85	100

Nanofront片材



常规

纳米纤维片材的特性

高渗透率

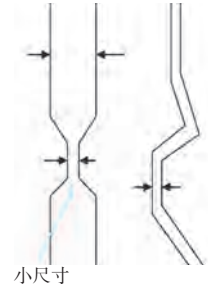
原因

- 1) 推定有大量的孔
- 2) 孔直径尺寸波动

纳米纤维片材的优势

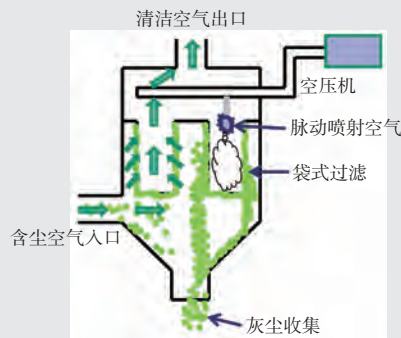
- 更低的压力损耗
- 更高的过滤效率

纳米纤维片材 多孔膜



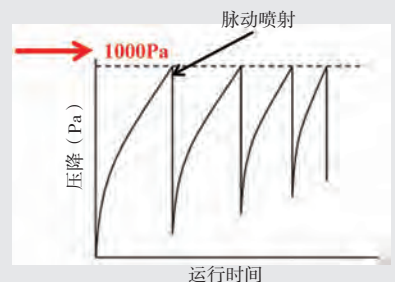
袋式过滤

袋式过滤装置



集尘和释放机制

表面收集尘 → 每到达1000Pa, 通过脉动喷射

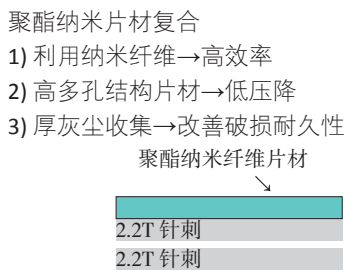


技术信息

目标与挑战

- 1) 市场需求 (空调)
对排放与环境的严格监管, 降低运营成本
- 2) 开发目标
高效率, 低能耗 (低压损) 袋式过滤
- 3) 传统市场产品
 - 商品: 针刺不织布
特性: 低效率、低压损, 容易被积灰, 价格低
 - 覆有PTFE膜的针刺不织布
特性: 高效率、高压降, 价格高
- 3) 挑战
 - 保持高效率 and 低压损
 - 耐久: 2年以上
由于PTFE是非常薄的膜, 易破、不耐用是其弱点

概念



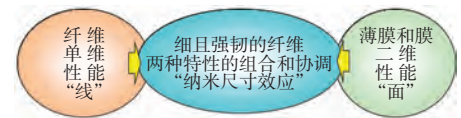
帝人Conex间位芳纶短纤维

帝人Conex超细纤维: 超细纤维对于功能性不织布意义重大

Dtex (直径)	0.5T (6.5μm)	0.9T (9μm)	2.2T (14μm)
片材表面			
片材横截面			
针刺非织造布横截面			

未来的发展与业务

- 帝人以其最先进的技术为环保、节能提供各种解决方案
- 通过纳米技术生产超细纤维
 - 工艺和结构设计
 - 性能评价与分析



(资料来源: "ANFA会议论文集", 本篇已节选)

(<<<上接38页)

Ace的工厂坐落于印度西部地区, 靠近孟买, 据Maheshwari称, 该工厂采用一流的卫生设施建造而成。Ace的设备和来源于著名的全球供应商, 同时新的热风粘合生产线配备在线摄像机以及金属探测技术。“大部分卫生产品目前采用可替代材料, 但并不十分有效,” 据Maheshwari介绍。“由于意识到这种材料的优越性能, 印度一些婴儿及妇女卫生品牌, 通过从泰国/中国进口的方式已经将热风非织造布应用在他们的产品中。进口材料意味着成本的增加, 但该方法能使消费者用到更优质的产品。热风粘合非织造布的本土生产将使当地生产的产品具有更高的性能水平。”

Ace工厂的大部分产品将针对婴儿尿片和女性卫生产品的导流层 (ADL) 以及面层。作为面层, 产品非常柔软, 使身体感觉非常柔软。当该产品被用在导流层, 能够非常有效的分流及吸收液体。产品的重量显著地降低。与传统产品相比, 所有的产品性能参数也有了显著的改进, Maheshwari谈到。

Ace的新工厂将满足当地市场的需求, 同时出口多余的部分。

“热风粘合非织造布以其高的蓬松性、吸收性、厚度以及更低的重量而闻名。”他说, “这些特征使这种材料成为用即弃及耐用终端产品的理想材料, 包括婴儿尿片、女性卫生产品、服装填料、内衬、隔热材料、过滤材料、床上用品、家具、地毯背衬、湿巾以及柔软垫。”

卫生产品在印度的渗透率目前处于一个较低的水平, Maheshwari解释说。然而, 使用率以每年15%至20%的速率增长。“随着经济的发展, 中产阶级和收入水平都出现了激增,” 他继续说, “从业女性越来越多, 女性和儿童护理卫生正在采取不同的方式, 对优质产品的需求正迅猛增长。这家工厂将努力迎合这种需求, 从而使印度尿片以及女性卫生产业能够提供符合国际品质的产品。”

(资料来源: "www.thefreelibrary.com")

技术发展趋势

干法造纸市场迎来新的投资

经过多年谨慎的市场形势分析，生产商们准备扩充新的产能

根据Smithers Apex的数据显示，对于干法造纸非织造产品而言，女性卫生用品仍然占据最大的市场份额，占全球销量的35%。

在北美地区干法造纸市场将受到该行业即将投入的一条大生产线的影响，该生产线必将改变未来几年的供求关系。

该行业的资深企业Glatfelter于2015年下半年宣布安装一条生产线。其产能为22,000短吨（1短吨等于9.0719公斤），预计安装在位于阿拉斯加州Fort Smith的一个新公司，在该公司附近至少有一个主要的湿巾生产商和一个大的女性卫生用品制造商。

这项投资是自2000年初以来北美的干法造纸企业中最大的投资，当时Buckeye（现在已被Georgia-Pacific并购）增加了一条50,000吨的生产线，同时Concert Industries（现在由Glatfelter拥有）也在魁北克的Gatineau增加了两条并列生产线。

据相关管理人士介绍，这条新的生产线主要生产轻质干法造纸产品，适用于湿巾和轻薄的女性卫生用品。

在2015年，女性卫生用品占据Glatfelter销售额的74%，而湿巾只占销售额的不到10%。最近，首席财务官John Jacunski告诉行业分析师，在Arkansas的投资（其中还包括一个卓越中心）将允许Glatfelter在不影响其女性卫生产品效率需求的情况下，生产湿巾。

“新的生产线将为投资组合带来额外的平衡，这无疑是一件好事，与此同时也向我们所有的客户传递着我们愿意并且能够支持其增长的消息，” John Jacunski说。

因为这条新的生产线距离阿拉斯加州的Springdale湿巾制造商Rockline和阿拉斯加州的Conway的女性卫生用品制造商Kimberly-Clark的工厂不远，业内人士猜测该生产线已经至少拥有两个关键客户。

业界反应

这条新的生产线对于其它干法造纸企业，特别是位于北美地区的那些企业而言，意味着什么，仍有待观察。随着Glatfelter在湿巾市场的不断扩张，其主要竞争对手Georgia-Pacific可能被迫寻找新的市场，如女性卫生或桌面用品来填补其产能，该公司生产线的大部分是由Buckeye Technologies于2001年在北卡罗来纳州的Gaston建成。这条生产线主要集中在湿巾产品上，到目前为止，G-P在干法造纸湿巾市场都很少有本地竞争。

“干法造纸是小型、专业的非织造业务，”干法造纸方面的专家Phil Mango解释道，“由于干法造纸的生产线的扩大，像这样的一个投资必然影响供需。事实上，仅5000吨或其它产能的生产线就可以改变一个公司对事物的看法。

除了在Fort Smith的那条新生产线外，Glatfelter在德国和加拿大也有干法造纸生产线。这项投资将使该公司干法造纸全球产能达到约129,000短吨。等到明年年底新生产线的推出，Glatfelter称其干法造纸业务供应依旧短缺。据相关人士介绍，去年销量增长了8%，但销售额却在下降，主要是因为原材料价格的下降。这项投资将有助于拓宽Glatfelter的技术领域以及其制造业。

“我们非常高兴能够与Fort Smith和Arkansas合作，因为在这里的投资对于我们公司有很大的商业意义。”Glatfelter先进干法造纸材料业务总裁及公司高级副总裁Chris Astley说，“定位在这里，在许多方面对我们的业务都有利。它将使我们扩充产能，以满足客户对我们先进的干法造纸产品需求的不断增加，也让我们更接近关键供应商和客户，同时将产品运输到南部地区将更加快捷。同样重要的是，这也使我们能够利用该地区的高素质劳动力。”

Domtar的决策

与此同时，纸业公司Domtar，通过收购包含Novathin技术在内的EAM（Engineered Absorbent Materials）公司非织造业资产，进军干法造纸市场。据Domtar的消息称，尽管对于个人护理用品采取的是积极扩展

技术发展趋势

的策略，其中包括近年来的一些收购，然而在乔治亚州的Jessup的生产并未完全成功掌握所有的Novathin技术，这迫使Domtar将继续在女性卫生和成人失禁市场销售一部分产品。

这种情况可能很快会改变。在今年春天公布季度收益时，相关管理人士告诉行业分析师，该公司在过去12个月的个人护理业务中大约有1亿美元的新业务。仅在2016年第二季度，成人失禁产品、自有品牌婴儿尿布以及其它卫生用品的销售额增长了6%，达2.28亿美元。

虽然大部分的业务是在婴儿尿布市场，本季度它的销售增长了21%，自2011年以来，Domtar一直在稳步地收购女性卫生、成人失禁和其它卫生领域的品牌。今年年初，公司增加了Butterfly Health品牌，是为意外肠漏患者生产的身体衬垫产品。这个产品就运用了EAM的吸收芯层技术。

在个人护理行业，（如EAM）拥有一个核心技术，将为公司的产品创新提供支持，管理人员称干法造纸工艺，在整个卫生用品领域能提高产品的创新性。最近的一个例子是Indasec推出的产品，它是Domtar在意大利的一个轻薄失禁产品品牌，就运用了EAM芯层技术。

首席执行官John Williams说：“从EAM中我们越来越多地发现它的技术优势，并将其用于产品，从产品中消费者得到利益，这就值得我们构建产品技术。”Indasec是在这个方向迈出了第一步，并且到目前为止该产品一直很受消费者追捧。

为了推动Indasec重组，Domtar在西班牙Toledo的工厂改进了EAM的技术，从而推进所有生产线能够在必要时采用EAM技术。

由于Domtar在其卫生产品中大量使用了干法造纸工艺，使得它最有可能是北美下一个添加干法造纸生产线的公司。同时，Domtar在南卡罗来纳州Greenville有足够的空间安装成人失禁产品生产线，从这一方面来看，收购将是该公司目前首要的任务。

干法造纸展望

根据行业追踪系统Smithers Pira的新报告，全球干法造纸非织造布市场价值为16.4亿美元，预计到2020年将以4%的年增长率增长至20亿美元。干法造纸非织造布的主要市场为成人失禁、女性卫生、擦拭巾和食品垫，这些产品的全球需求都在增长。消费者热衷于更薄、更安全舒适的女性卫生用品、成人失禁垫、以及婴儿尿布，这些特点与干法造纸非织造布的性能相匹配。

调查表明，干法造纸非织造布的主要区域市场存在明显的差异。北美地区是最紧密的干法造纸供应地，利用率接近95%。它是两个最大的干法造纸生产商和最大的干法造纸原料供应商所在地。北美已经从欧洲进口一些材料，如果2020年之前不扩充新的产能，就会出现重大供应问题。同时，欧洲主要生产商，包括德国的McAirlaids和Glatfelter，土耳其的Karweb，瑞典的Duni，法国和西班牙的Lucart，目前拥有最大的可利用干法造纸产品供应，但利用率仅为87.5%。

而且，这样低的利用率是在Duni决定缩小其干法造纸业务重点之后出现的。在2013年，Duni表示退出卫生用品业务，但仍然保留桌面用品业务。在未能找到以卫生用品为主的干法造纸生产线的买家后，Duni在2014年9月宣布把这条生产线从Das Långed转移到Skåpafors，并将其改造成生产桌面用品。Das Långed生产厂最终将关闭。

同时，亚洲是干法造纸非织造布的混合市场。根据Smithers Pira的一项报告，日本、中国和台湾都有传统的生产线，小型、速度相对较慢，但可以满足当地的需求。目前它的利用率约为90%，卫生用品是其最大用途。报告补充说，亚洲地区需要进行干法造纸市场扩充，因为它是2015年至2020年增长最快的主要地区，年增长率为8%。

(资料来源:“www.nonwovens - industry.com”)

欢迎投稿

产品集锦

SoftFlush® 可分散湿巾

像卫生纸一样分解的可分散纤维

就可分散湿巾而言，柔软性非常重要。推出 SoftFlush®-Jacob Holm 开发的一种已获专利的独特可冲散湿巾技术。SoftFlush® 超过了最高的分散性，其强度和柔软性远远高于竞争对手。凭借来自可持续自然资源的定制设计混纺纤维，SoftFlush® 尤其柔软、松软，且 100% 可生物降解。

SoftFlush® 旨在满足可分散湿巾市场快速变化的需求。使用定制设计的混纺纤维可以在维持优秀的分散特性的同时实现更高的润湿强度，以满足废水处理需求。2010 年，Jacob Holm 开始了一个开发计划，旨在设计一种完美适合湿纸巾市场和其他可分散产品应用的独特技术。经过大量研究后，公司确定需要全新的资产基础，并生成了原型结构。公司仔细研究了知识产权情况，并制订了专利文件。公司主要投资了先进且独特的生产设施，该设施现已投入生产。

最终用户利益



SoftFlush® 的优势

- 比市场上其他同类产品更柔、更松软
- 更高的润湿强度
- 采用可持续的天然资源制成，100% 可生物降解
- 更快的分散特性大大超越当前的 GD3 要求
- 能定制浮雕花纹

(资料来源: "www.jacob-holm.cn")

Kelheim纤维公司展现了工艺成熟的新产品

特种粘胶纤维制造商Kelheim纤维公司在 INDEX™ 17展示了新型、成熟、增强型混合产品。

可冲散性仍然是最重要的话题之一。Kelheim纤维公司生产的第一代粘胶纤维 Viloft，拥有独特的扁平截面，应用于可快速分解的湿巾。该公司与当地污水处理机构以及知名的水泵制造商WILO，在2016年

对含有Viloft纤维的产品进行了综合测试。

“我们想要远超可冲散性指南的要求并且明白（废纸巾）在排污系统实际上是怎么流动的。与会造成泵阻塞的传统（水刺）擦拭巾相比，Viloft制成的擦拭巾通过了可冲散性能测试，并且效果优良。” Kelheim纤维公司商业总监Matthew North说。

他补充说：“我们与污水处理机构的密切合作，就清楚地表明污水处理系统的损失是由未经正确处理的湿巾所造成的。在德国，（污水处理系统的）维护成本每年增加至近2亿欧元，而事实上这些费用最终均变相的由消费者承担。”

对于将粘胶纤维用于卫生棉条的世界领先的制造商而言，卫生用纤维仍然是另一个重要话题。Kelheim申请了超吸收特种纤维 Galaxy的专利，能达到最高的卫生标准，并深入了解客户的需求，以建立持久的对等伙伴关系。Kelheim说：“最近宝洁公司颁发的‘2016年度外部商业合作伙伴卓越奖’就是最好的证明”。

此外，Kelheim纤维公司内部研发了名为 Electra的新型纤维，在静电消耗方面有广泛用途。目前，该公司正在测试这种纤维在连接敏感电子部件方面应用的可能性。（资料来源：“INDEX17”）

（<<<上接38页）

Hoftex Group AG首席执行官Klaus Steger代表公司在剪彩仪式上发表讲话说，“我们为Tenowo的成功及团队背后的工作和独创性感到骄傲，感谢林肯县的支持，对于这个项目的成功完成起到至关重要的作用。” Steger说，“我计划把这里员工的奉献和这次活动的启发转达给Hoftex Group董事会。这样，我们可能会看到，在这里进一步的投资会比最初计划的来得快。”

新生产线的第一次商业化生产在2017年1月的第一周，盛大的开幕仪式于2017年3月23日举行。

(资料来源: "www.textileworld.com")

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