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TWM

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Zeina Group: "Our vision is to become the undisputed market leader in Egypt and North Africa."

Egypt's Indevco Paper
Making vice president Imad
Issa El Khoury talks growth in
our Operations Report



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TWM

TISSUE WORLD MAGAZINE

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Egypt and Jordan: progress against the odds

Tissue makers well know the difference between potential growth and realisable growth.

Growth which has every chance of being turned into revenue when consumers enjoy more spendable income, and growth which even when that occurs will remain elusive for cultural, historical reasons.

Egypt and Jordan are a case in point. In Egypt's case it does seem surprising that a civilisation so old should today still be described as "developing." That is the word Abdul Karim Natout, the founder and chairman of Egyptian tissue mill Zeina uses: "Egypt is a developing country, the consumption (of tissue) per capita ranges from 700 – 1,000 grams compared to 5kg per capita in the Middle East."

On the best way of solving any overcapacity he has this to say: "The development of the country and consumer product education is the sole solution."

On green issues: "The consumer mindset and culture doesn't promote environmental-friendly products to a great level. This market is still primitive with great room for development in the future."

Advertising and marketing of toilet paper, for example, remains limited.

Nation facing loss of traditional markets and key increases in energy costs

Egypt is the Middle East's most populous country at 88m, with 12.3m more inhabitants expected by 2020. That is one kind of potential.

General economic indicators are fairly promising: 3.8% improved GDP expected in 2015, a relatively stable political situation; and retail tissue volume is 4% up, with more retail outlets established in urban centres.

On the debit side, traditional markets are less accessible amid the Middle East's ongoing security crisis, and, as Indevco Paper Making vice president Imad Issa Elkhoury explains, recent energy price increases in Egypt have coincided with worldwide energy price decreases and major currency devaluations hitting profitability.

Both are doing their utmost to fill that "great room for development," but given the somewhat more intractable reasons already spelt out it remains one of the more precarious jobs in tissue.



Helen Morris



Editor,
Tissue World magazine

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It all sets the stage to make the eighth edition of Tissue World in America the biggest ever in its history.

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It's fierce out there - the battle for tissue raging across the UK market

Sales of household paper products at the top four superstores have slumped. The reasons – branded sales fall, the rise of own label, a price war, discounters and bargain stores, and more online shopping. But does it foreshadow a deeper crisis across the global industry? Simon Creasey reports from the front line.

Sales of household paper products at the grocery multiples in the UK went down the toilet last year. According to data by Nielsen, in two of the four main paper categories volume sales were down significantly - nappies were down -4.1% and sales of kitchen towels were down -2.1% (Source: Nielsen – 52 week ending 7 November 2015).

This poor performance has hit the household paper brands hard with some enduring significant falls in value and volume sales. Retailer range reviews haven't helped matters as some brands have lost listings.

These flagship paper brands have also been battered by retailers placing a greater emphasis on own label products. Own label value sales of toilet tissue rose 5.8% in the last 12 months, whereas total category sales were down -0.8%. Facial tissue own label sales were up 9.9% against toilet category increases of just 1% (Nielsen).

"The big players have marketing dollars that can sustain their businesses for a long time, but looking further they will need to develop products that are much more consumer-led, rather than manufacturing efficiency-led."

Oday Abbosh, founder of Better All Round

So why are consumers shopping elsewhere for household paper products, where are they spending their money and what are the grocery

retailers and the brands doing to claw back market share?

The reason the big four grocers in the UK (Sainsbury's, Tesco, Morrisons and Asda) are struggling to shore up sales of household paper products is that consumers are increasingly purchasing more of these products from the discounters, bargain stores and even Amazon, from whom they are buying in bulk.

Kantar Worlpanel data reinforces this shift, with bargain stores increasing value sales of all household products by 2.9% year-on-year in the 52 week period to 8 November 2015. During the same period discount retailer Lidl grew value sales of household products by 7.3%, Iceland by 8.1% and Aldi by a whopping 21.9%.

Although sales of branded products continue to dominate the total household category, with a value share of 70%, Camille Streicher, an analyst at Kantar Worldpanel, says own label is catching up fast.

"The continued growth of own label is driven by strong performances from the discounters, in particular Aldi which has experienced double digit growth in the past year," explains Streicher.

"More specifically, the main sectors bolstering own label growth are: fabric conditioner (+19.9%), laundry (+7.5%), toilet roll (+7.2%) and autodish (+7.1%)."

Sales of own label facial tissues are also faring well at the moment, showing value growth of 6.3% off of volume growth of 12.9%. On the flipside own



Simon Creasey



freelance journalist

label kitchen roll sales slumped -4.4% in value with volumes marginally up by 1% - the reason for the fall in value is due to the average price of a pack of own label kitchen rolls dropping by -5.4% (Kantar).

On the flipside, brand owners are struggling. Sales of branded toilet roll fell -2.1% in value and -1.9% in volume in the last year, facial tissue sales dropped -2.3% in value and -6% in volume and although sales of branded kitchen rolls increased by 5.6% in value and 3.4% volume, this was in part due to the 2.2% increase in the average pack price (Kantar).

The worst hit paper product brands were Andrex (value was down -8.5% with volumes down -7.5%), Velvet (value sales down -9.9% on volume sales of -8.5%) Kleenex (value -4.5% and volume -3.4%) and Thirst Pockets, which saw value sales slump - 18.8% with volumes falling by -21.4% - this was despite the fact that over the recorded period the brand pushed through a 3.3% increase in the average pack price.

The contrast in fortunes between branded and own label products is due to

By freelance journalist **Simon Creasey**

Products in the Andrex range including washlets

a number of different factors, according to Gary Earle, sales director at Accrol.

"The quality of the multiple grocers' private label ranges is improving to match or even exceed the brands and the consumer is buying into this," says Earle. "There is very little true new product development on dry toilet tissue from the brands and to win back the consumer their only strategy seems to be consistent promotional activity."

This is largely due to the fact that while any economic recovery still seems pretty fragile, post-recession consumers love nothing more than a good bargain. Consumer research undertaken by Mintel found that 51% of shoppers look for special offers when purchasing toilet paper – the equivalent number for kitchen roll and facial tissue shoppers is 44% and 42% respectively (Lightspeed GMI/Mintel November 2014).

That's not necessarily to say that the large brands have been guilty of falling into the trap of over promoting. Andrex marketing director for family care, Karel Van Der Mandele, says that although value continues to be important for shoppers, whether through promotions or everyday pricing, the "percentage of volume sold on promotion is relatively flat year-on-year".

In response to why the brand's value and volume sales were hit so badly in 2015, she says: "The nature of our customer and portfolio plans in 2015 meant the majority of in-store and promotional support plans shifted towards the second half of the year. Our momentum and share has subsequently picked up."

Retailer range reviews also haven't helped matters. The big four grocers

have put a growing amount of pressure on suppliers to deliver keener pricing as they've stepped up the price war between each other, whilst at the same time attempting to ward off the growing threat of the discounter groups. Andrex was particularly badly affected by a Tesco range review in late 2014, although Van Der Mandele believes that the brand has emerged from the process with a much stronger proposition.

"Many retailers have undergone range rationalisation over the last two years in order to simplify the shopping experience for their customers," she says. "In most instances these decisions are being made in such a way that benefits the shopper by reducing complexity, but retaining shopper choice. We as category leaders have taken the lead by simplifying our own portfolio, removing four variants from the range and consolidating our core range to focus on product benefits."

So what are manufacturers of paper products doing to fight back? Some are experimenting with pack formats to meet changing consumer demand.

"We identified that the consumer is now trading up from standard grade toilet rolls to premium in either brand or private label and the trend is still continuing towards larger pack sizes – anywhere from nine rolls upwards," says Earle.

To cash in on the premium trend Accrol has developed a new premium quilted toilet roll, which according to Earle is a "true" quilt. "Many of our competitors state quilted on their pack claims, but in effect it is an embossed and laminated product, not a true quilt," he explains.

Similar consumer purchasing habits are also being exhibited in the kitchen roll sub-category. "The star performers are the larger sheet jumbo kitchen roll and multi-purpose roll," says Earle. "The consumer is trading up to these types of products."



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By freelance journalist **Simon Creasey**



Accrol Softy Quilts six roll

In response to the growing premium push Accrol has invested £9m in three new converting lines that are capable of producing premium grade products.

Andrex brand owner Kimberly-Clark also splashed the cash on a multi-channel marketing campaign, including a 30-second TV ad slot, in August, which it hopes will bring “shoppers back into the brand and help drive brand power.”

And it unveiled a packaging refresh for its entire portfolio last spring.

However, the major problem for the big brands is that packaging tweaks and range additions aside, there has been very little genuine new production innovation over the last 12 months or so. It’s a situation succinctly summarised by Oday Abbosh, founder of Better All Round, which reinvented

the kitchen towel by launching Ora in 2012 (see boxout).

“All of the big players have got hundreds of millions of dollars tied up in heavy equipment,” says Abbosh. “Their capex is enormous and all of that equipment was laid down years ago so everything they do is based around optimising the operation of those plants and eking out every ounce of inefficiency so that they get a fantastically smooth running, low cost machine. The downside to that is you have zero opportunity to innovate because you just keep producing the same old same old. All they can do is say ‘let’s add more sheets to the roll, or reduce the number of sheets or play around with paper substrates.’”

Despite Abbosh’s gloomy prognosis, there is room for optimism for the household paper products category. For starters, the projected population growth will help operators in this ‘needs driven’ market – Mintel says that the 4% more people who are expected to live in the UK by 2019 will help drive up volume sales of toilet and facial tissues, with kitchen roll products also expected to prosper.

Case study: Better All Round

Former management consultant Oday Abbosh launched the conical kitchen roll brand Ora in 2012 after identifying that consumers were wasting between a quarter and a third of the surface area of conventional kitchen roll products.

“We started looking at this problem from a consumer perspective without having a clue about how to make the product,” he recalls. His solution was to develop a round kitchen roll that is stacked on top of one another rather than perforated, which means it can be used with one hand.

After fine-tuning the product Abbosh secured a two-year exclusivity deal with Tesco through a contact and Ora is now stocked in more than 1,400 stores. The exclusivity period ends later this year and Abbosh says that despite doing no international marketing of the brand he’s already been approached by retailers, wholesalers and distributors in more than 25 different countries.

The big problem he faces now is stepping up production to meet projected capacity demands. “To date we have funded everything through friends, family and contacts. We’ve taken no private equity, venture capital money or debt. But we have to build new machines and ramp up capacity so that we can meet future demand for our products. We’re having discussions about how we can achieve that at the moment.”



The conical kitchen roll brand Ora was launched in 2012



Advert campaign from Andrex brand owner Kimberly-Clark

Richard Caines, senior household care analyst at Mintel, says: "Some 1.1 million more households in 2019 compared with 2014 will benefit sales of kitchen roll, especially if more of them can be encouraged to use it for a wider variety of tasks, potentially boosting the market by £70m." Home entertaining could also play a vital role in future sales growth.

"Home entertaining can help boost the value of sales of household paper products, including use of kitchen roll when cooking, as well as the purchasing of more premium toilet tissue, tissues for guest rooms and paper napkins," adds Caines.

He also thinks there is an opportunity for facial tissue brands, which have been struggling for a long time now, to grow sales by encouraging higher usage – particularly among men and younger people, who only tend to buy them when they have a cold.

The relatively new moistened toilet tissue sub-category also offers scope for future growth. "Moistened toilet tissue has further growth potential, particularly

if more people can be convinced of its value as a complementary product to dry toilet paper and concerns about it not flushing away can be overcome," says Caines.

These changes are not going to happen overnight, but he's optimistic about the categories' future outlook if some of the major branded players can get their heads around the current challenges facing them and respond to changing consumer needs and purchasing habits.

"Shifting purchasing away from being commodity-focussed through more segmentation of the product offer and the promotion of new features is needed to help return the household paper products market to growth," believes Caines. "This includes making toilet tissue and facial tissues more focussed around people's personal care routines and the development of kitchen roll in different variants that clearly targets the features most important for different uses of the product."

Abbosh agrees with this assessment. He thinks that the big brands could be

flush with success in the future, but only if they undergo a shift in mindset. "I personally think that there will come a time when this industry will need to adapt massively – like so many industries have already done – to the change in consumer behaviour and what it is possible to achieve through the use of technology," says Abbosh.

"This industry has tried to avoid having to accept the seismic changes to consumer shopping habits, but it's going to come to the paper industry in the fullness of time. The big players have all got tonnes of marketing dollars that can sustain their businesses for a long time, but looking further into the future they will need to shift more towards developing a range of different products that are much more consumer-led, rather than manufacturing efficiency-led."

Simon Creasey is a UK-based freelance journalist who was formerly associate editor [features] at The Grocer, a British market leading magazine devoted to grocery sales.

GLOBAL

OverMeccanica acquired by Overmade

OverMeccanica – in temporary operation since September 2014 after entering bankruptcy proceedings – has been acquired by Overmade in November 2015. Overmade is a new company of Italian investors headed up by former Over managers.

All assets including brand, know-how, references, drawings, patents, stocks, tools and equipment have been transferred to the new company, which will continue to supply machinery and services to the industry.

on 1 December 2015 and will carry on the business from the headquarters of Via Torricelli 25 – Verona, taking over staff who were formerly Over's.

Overmade chief executive Stefano Marocchio said: "Faced with the choice 'give up' or 'fight', we made the decision to go for the second.

"And indeed we have been struggling hard, convinced that the wealth of knowledge left from the past was well worth being preserved. The paper industry will benefit from that.

"Now we are ready to start this venture focused on the customer needs and prepared to partner with our clients of today and our clients of the future.

"We are pretty sure that the business model we developed and consequently

"Faced with the choice 'give up' or 'fight', we made the decision to go for the second. And indeed we have been struggling hard, convinced that the wealth of knowledge left from the past was well worth being preserved."

Overmade chief executive Stefano Marocchio

Over has completed more than 400 complete installations worldwide during the past 50 years. The new company was officially effective

the way we have organised the company will help streamline all the processes and increase our ability to offer valuable solutions while staying competitive."

Metsä Tissue renews organisational structure

Metsä Tissue has renewed its business unit structure as of 1 January 2016.

The new organisation is based on four business units: Consumer Nordics, Consumer Continental, Away-from-Home and Baking & Cooking.

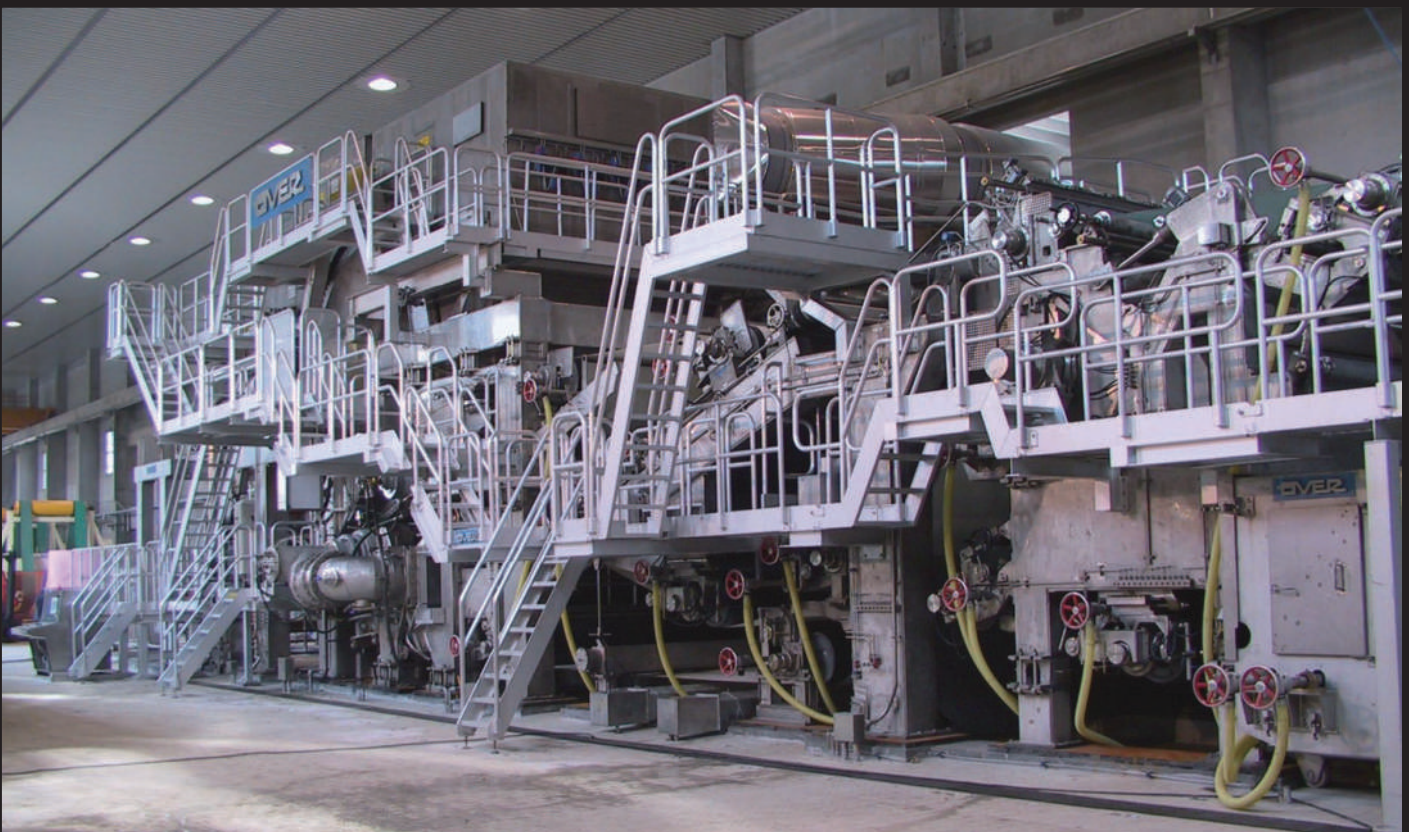
Chief executive Petri Helsky said: "The new set up enables us to put more focus on our key customer segments and boosts our product and offering development.

"We will also strengthen our customer service through a dedicated supply chain team.

"We want to be the best partner for growth to our customers. To do this, we will keep the strong local focus that we have but also develop our offering both in Tissue and Baking & Cooking in close collaboration with our customers."

Away-from-Home is headed up by Juha Tilli, Baking & Cooking by Mariusz Jedrzejewski, Consumer Continental by Christoph Zeiler and Consumer Nordics by Mark Watkins.

Metsä Tissue is one of the leading suppliers of tissue paper products to households and professionals in Europe. Its main brands are Lambi, Serla, Mola, Tinto, Katrin and SAGA.



Newborn company Overmade was officially effective on 1 December 2015



SCA closes Wausau Paper acquisition

SCA has closed its acquisition of Wausau Paper for USD 513 million in cash.

The European tissue giant consolidated Wausau Paper on 21 January 2016.

Magnus Groth, SCA president and chief executive, said: "SCA is the world's leading supplier of Away-from-Home tissue with the global brand Tork®.

"This acquisition is an excellent strategic fit and makes us a stronger supplier in North America." Wausau Paper produces a complete line of Away-from-Home towel and tissue products that are marketed along with soap and dispensing system products under a number of brands including Artisan™, DublSoft®, DublNature®, EcoSoft®, and related custom brands.

The transaction expands SCA's North America footprint and production capacity.

Michael C. Burandt, chairman and chief executive of Wausau Paper, said: "With the closing of this transaction, the Wausau team joins an organisation that shares our vision and values.

"We believe this provides an opportunity to capitalise on new resources and opportunities that will benefit our customers."

Magnus Groth: "Makes us a stronger supplier."

AMERICA

Gordon Brothers Group purchases assets formerly owned by Lincoln Paper and Tissue

Gordon Brothers Group has purchased the assets of Lincoln Paper and Tissue as part of a joint venture that includes Capital Recovery Group (CRG), PPL Group and Rabin Worldwide.

The global advisory, restructuring and investment business specialises in the industrial, consumer products and retail sectors, and the acquisition follows the Maine-based tissue and paper mill's file for bankruptcy in late September 2015. Bob Maroney, president of the commercial and industrial division of Gordon Brothers Group, said: "Our purchase of this mill provides a significant opportunity for a strategic operator to restart the mill.

"In the event an operator does not materialise, we will provide buyers with the chance to purchase some highly desirable, late model paper and tissue equipment."

Lincoln Paper and Tissue's bankruptcy filing resulted from a series of challenges as the company sought to improve its business following a boiler explosion in 2013 and the subsequent loss of a major customer.

The company faced headwinds due to trends towards foreign manufacturing of similar products and earlier this fall made the strategic decision to file for bankruptcy.

Lincoln Paper and Tissue is a US manufacturer of high quality tissue products. Located in Lincoln, Maine, it provides commodity and niche-market tissue products to quality-minded customers worldwide. It is the largest producer of deep-dyed tissue in the United States.

K-C announces Q4 and full year 2015 earnings

Kimberly-Clark has reported a fourth quarter net sales decrease of 6% to \$4.5 billion compared to the same period a year earlier.

The company said changes in foreign currency exchange rates reduced sales by 11% while operating profit for the fourth quarter of 2015 was \$779 million compared to \$769 million.

In its consumer tissue segment, fourth quarter sales of \$1.5 billion decreased 6% and K-C said currency rates were unfavourable by 9%. Volumes increased 4% while net selling prices were down 1%.

The division's fourth quarter operating profit of \$262 million was a decrease of 6%, while sales in North America increased 4%. Volume growth was "particularly strong" on Cottonelle bathroom tissue and Viva paper towels. Sales in developing and emerging

markets decreased 23% while sales in developed markets outside North America fell 10%.

Thomas J. Falk, K-C chairman and chief executive, said: "Our fourth quarter results capped off another year of good financial performance for Kimberly-Clark. For the full year of 2015, we achieved 5% organic sales growth, highlighted by 10% growth in developing and emerging markets and a 5% volume increase in our North American consumer products business." He added that in 2016, the company expects to deliver a "good underlying financial performance".

"Our fourth quarter results capped off another year of good financial performance for Kimberly-Clark. For the full year of 2015, we achieved 5% organic sales growth, highlighted by 10% growth in developing and emerging markets and a 5% volume increase in our North American consumer products business."

Thomas J. Falk, Kimberly-Clark chairman and chief executive

"We will also continue to invest in our brands, our targeted growth initiatives and our capabilities. We plan to achieve healthy organic sales growth and cost savings, improve cash flow and allocate capital in shareholder-friendly ways.

"Despite another year of significantly unfavourable currencies, we also expect to further improve our margins and deliver 3 – 7% growth in adjusted earnings per share."

BRAZIL

Suzano orders two tissue paper machines for Mucuri and Imperatriz mills

Suzano Pulp and Paper has signed a \$58 million order for two tissue paper machines (PM) to be installed at the company's Mucuri and Imperatriz mills in northeast Brazil.

Each PM will have capacity to produce 60,000tpy and Suzano expects to start construction in May.

Tissue production is expected to start-up at Imperatriz in the third quarter of 2017 and at Mucuri in the fourth quarter of the same year.

Both mills will produce jumbo rolls to be supplied to toilet paper converters in the northeast region of Brazil.

News from RISI (www.risiinfo.com)

ALGERIA

Faderco starts up tissue PM

Independent tissue paper company Faderco has started up its Valmet-supplied tissue line at its site in Sétif.

Owner Amor Habes told TWM the new line will produce more than 30,000 tonnes of tissue paper per year.

It will be the second tissue mill in Algeria alongside Tonic Industries' line, which a reporter for TWM said has not yet attained its full capacities.

The Faderco mill produces tissue paper for its own requirements and also to supply others Algerian converters.

Habes said: "We're proud of this achievement which needed

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several years of work and a huge investment on a project we've been cherishing."

The TWM report said the cost of the whole project is around US\$70m and lasted around 36 months.

The surface of the site is about 55,000m² and the new mill will provide 750 jobs.

The TWM reporter said: "With this new paper machine starting, tissue paper capacities in Algeria will increase to 58,000tpy."

ASIA

Vinda to acquire SCA's hygiene business in Asia

Vinda International Holdings is to purchase SCA's hygiene business in South East Asia, Taiwan and South Korea.

The divestment of the business for integration with Vinda was approved on 13 January.

The two companies have signed an agreement regarding the exclusive license to market and sell the SCA brands; TENA (incontinence products), Tork (Away-from-Home tissue), Tempo (consumer tissue), Libero (baby diapers), and Libresse (feminine care) in South East Asia, Taiwan and South Korea.

Vinda will hold the rights to these product brands in these Asian markets.

The company's hygiene business in South East Asia, Taiwan and South Korea had net sales of approximately SEK 2.2 billion in 2014. It has approximately 1,600 employees and three personal care production sites in Malaysia and Taiwan.

It will also acquire the brands Drypers, Dr.P, Sealer, Prokids, EQ Dry and Control Plus in these markets.

SCA will continue to provide innovation and technical support for the business. Magnus Groth, president and chief executive of SCA, said: "Asia is an important growth market for SCA with a large population and low penetration of hygiene products.

"The approved transaction strengthens

GREECE

Bolton Group shuts country's largest paper products manufacturer

The manufacture of Softex tissue products in Greece has come to an end. In mid-January, the employees of the factory based in Athens were informed that the site would close for good.

The Softex facility, an affiliate of the Bolton Group, used to produce paper towels and napkins under the leading Softex brand. It employed some 200 people.

According to the Greek Ministry of Labour, Social Security and Social Welfare, the main reason behind the closure was a blaze that struck the Softex unit in July last year.

"Following various excuses and delays, the insurance companies paid out a rather small amount to the company. So instead of fixing the problem and continuing to operate the Softex facility, it was decided to close Greece's largest paper products manufacturer," the ministry said in a statement.

It added that it would exhaust all remedies in order to save the Softex facility and jobs.

The Bolton Group did not reply to repeated requests for comment on the Softex closure.

News from RISI (www.risiinfo.com)

"Following various excuses and delays, the insurance companies paid out a rather small amount to the company. So instead of fixing the problem and continuing to operate the Softex facility, it was decided to close Greece's largest paper products manufacturer."

The Greek Ministry of Labour, Social Security and Social Welfare

the collaboration between SCA and Vinda and enables us to further leverage on our strengths to build a leading Asian hygiene business."

SCA has been a shareholder in Vinda since 2007 and it became its majority shareholder in late 2013. The company's hygiene business in South East Asia, Taiwan and South Korea had net sales of approximately SEK 2.2 billion in 2014. It has approximately 1,600 employees and three personal care production sites in Malaysia and Taiwan.

Its Shanghai office will now stop operations following the transaction, leading to around SEK 90m in restructuring costs.

PERU

Kimberly-Clark to cooperate with cartel tissue investigation in Peru

Kimberly-Clark Peru said it will cooperate with the investigation opened by the country's Defense of Competition and Intellectual Property Protection (INDECOPI) into certain competition

practices within the consumer packaged goods industry.

The company said: "The outcome of the investigation will not trigger a material event for the company. Our commitment to the Peruvian market, clients and consumers we serve continues."

INDECOPI announced on 15 December an investigation involving tissue producers Kimberly-Clark Peru and Protisa – a subsidiary of Chilean CMPC – into practices against free competition in the Peruvian tissue market from 2005 and 2014.

CMPC, which is also being investigated in Chile and Colombia for the same reasons, said the company's board ordered the maximum cooperation with INDECOPI and that it will take all actions deemed appropriate by the Peruvian authorities. Kimberly-Clark added that the company built its business in Peru over the past 20 years by fulfilling the needs of its clients with loyalty, quality and dealing fairly with consumers.

"Kimberly-Clark has strict corporate policies and a code of conduct that govern its business operations and practices globally."

News from RISI (www.risiinfo.com)

MEXICO

Fábricas de Papel Potosí boosts production

Fábricas de Papel Potosí has started-up a new tissue machine supplied by A.Celli Paper.

The machine has a 2,850mm web width, a working speed of 1,500m/min and a production capacity of 80tpd. It is equipped with a 12-ft steel Yankee and latest generation hood. With this new machine, A.Celli Paper said it offers the customer "a leap forward in quality".

Established over 30 years ago, Potosí manufactures products designed for large promotion and advertising campaigns in the hotel, restaurant, airline and sports sectors. It produces tissue paper from recycled waste paper and also has its own wastewater treatment plant.

TURKEY

Hayat Kimya restarts tissue PM at Yeniköy mill in Turkey after rebuild

Tissue producer Hayat Kimya has resumed production on the 70,000tpy PM1 at its Yeniköy mill, some 100km southeast of Istanbul, following downtime lasting more than a month.

The aim is to increase the PM's energy efficiency, improve product properties as well as performance, runnability and the work environment, but it will not change the machine's capacity. Hayat Kimya stopped PM1 for the rebuild on 1 November and the startup was planned for 1 December. The restart was delayed a few days, but the machine is up and running since December 8.

"After two reels, we started producing saleable paper quality. Today we continue the fine optimisation," Hayat Kimya paper group director Lütfi Aydın said.

PM1, supplied by PMT Italia, is the only one of Hayat Kimya's machines not from Valmet, but the Finnish company carried out the revamp.

The machine is now equipped with Valmet's Advantage DCT technology, including an Advantage ViscoNip press for improved product quality and decreased energy consumption.

The PM also got a new hood and an upgrade of its hot air circulations system, Aydın confirmed.

The Yeniköy mill also houses a second tissue machine, the 65,000tpy PM2.

Elsewhere, Hayat Kimya is moving forward with plans for a new tissue mill in Ain Sokhna in Egypt. Civil construction of the factory is ongoing, and the firm plans to start up the new 70,000 tonne/yr machine at the end of 2016, Aydın said.

News from RISI (www.risiinfo.com)



Members of the start-up staff at Metalicplas' plant

ROMANIA

Metalicplas boosts capacity with PM start-up

Romania's Metalicplas has increased its production capacity by 34,000tpy after starting up its new tissue PM.

Part of the Pehart Tec Group, the A.Celli-supplied machine has a width of 2.8m at the pope reel and a maximum speed of 1,800m/min.

It is part of a complete turnkey project that includes all ancillary equipment as well as the latest-generation hood design.

The investment was made to "confirm itself leader in the manufacture of tissue products in Romania and South-East Europe".

The company said: "The new corporate vision is set to attain important goals in these territories and the investment in the new TM serves as an important confirmation of this intention." Plans for an expansion project at production sites in Dej and in Petresti are also expected, creating a total production capacity increase for the group of almost 100,000tpy of tissue parent reels.



BaoSuo Paper Machinery Manufactory Co.,Ltd

Add:Guicheng,Nanhai,Foshan City,Guangdong ,China

P.C.:528251

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Fax: 86-757-86785529

Email:master@baosuo.com

Website: www.baosuo.com

Company Profile:

BaoSuo, the first brand in China, specialist in converting machinery for tissue, in operation since 1989, have more than 800 employees and thousands of machines worldwide, and also the only supplier in China can supply complete range of machines for tissue production, such as rewinding machinery for toilet roll, kitchen towel, AFH and industrial rolls, folding machinery for facial tissue, hand towel, napkin and handkerchief, slitting rewinder for jumbo roll and kraft paper, and core making machine.

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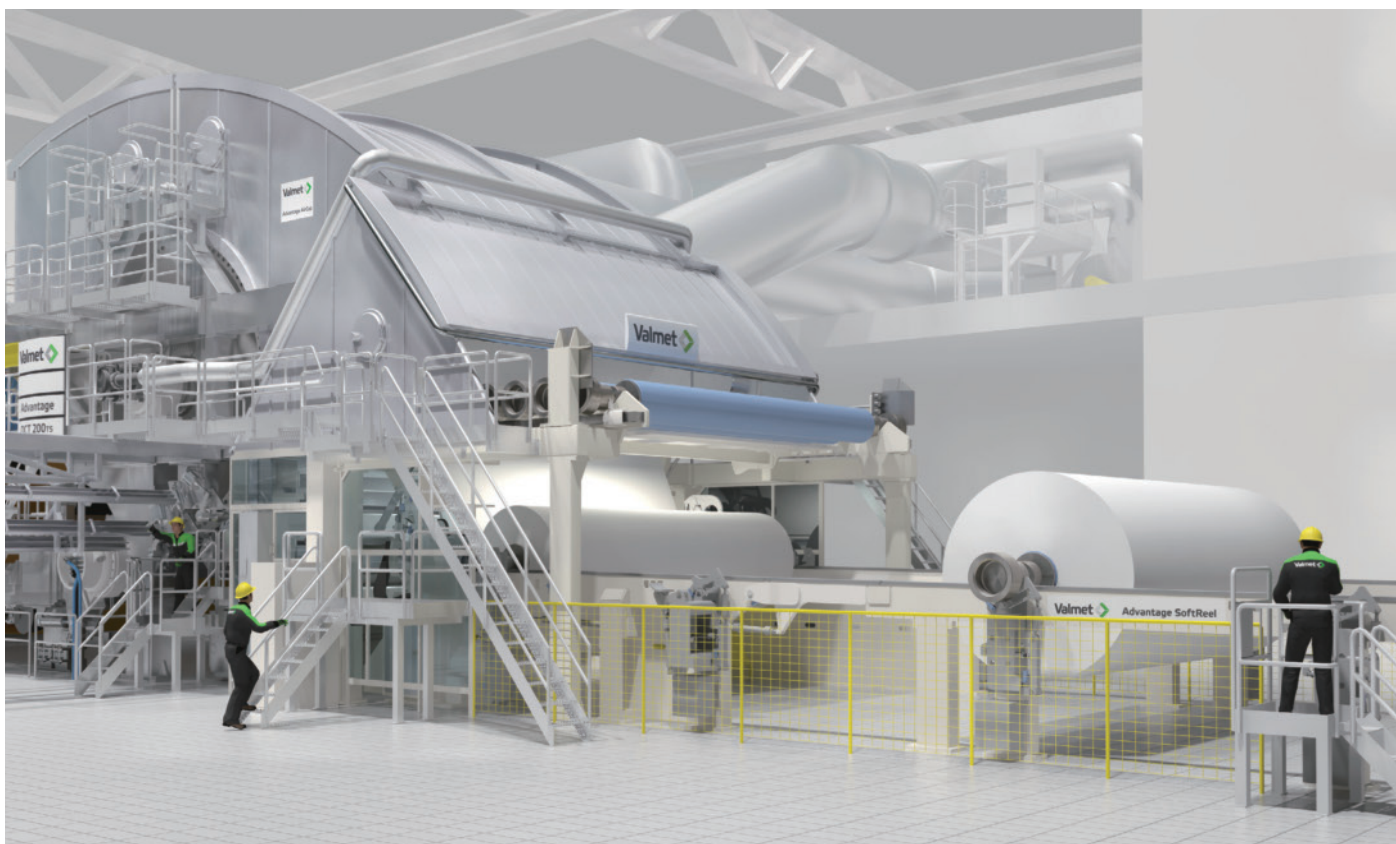
GERMANY

Barry-Wehmiller boosts tissue presence with further acquisition

Barry-Wehmiller has acquired Winkler+Dünnebier and POEM GmbH (W+D) from Körber. W+D is headquartered in Neuwied and Löhne, Germany, and has additional locations in the United States and Malaysia. It provides integrated system solutions

for the tissue and hygiene industry as well as the mail and postal industry. It is Barry-Wehmiller's second business in its expanding converting platform. W+D will operate as an independent business unit alongside Paper Converting Machine Company (PCMC). Tim Sullivan, Barry-Wehmiller group

president, said: "As we bring W+D into the Barry-Wehmiller family, we look forward to even greater successes as we leverage the resources of both companies to optimise opportunities for W+D's associates and customers alike."



The Valmet Advantage DCT TS tissue machine will add 60,000tpy of high quality tissue to Fine Hygienic Holding's current production

UNITED ARAB EMIRATES

Nuqul Group's Fine Hygienic to boost capacity

Nuqul Group's Fine Hygienic Holding (FHH) has signed for a Valmet-supplied Advantage DCT 200TS tissue production line.

The tissue machine will be installed at the Al Nakheel mill in Abu Dhabi and will have a width of 5.6m and a design speed of 2,200m/min.

It will add 60,000 tonnes of high quality tissue per year to the company's current production of bath, facial, napkin and towel tissue for consumers in the Middle East.

It is planned to start operation in the

first quarter of 2017 and includes a complete delivery package from stock preparation equipment to rewinder.

Hani Nuqul, chief officer of strategic industries at FHH, said: "Our long-term relationship with Valmet and the Advantage tissue technology convinced us that we will have the best conditions to meet the market's challenging requirements for high quality facial tissue produced with lowest possible energy consumption."

The tissue machine is equipped with an OptiFlo II TIS headbox and a cast

alloy Yankee cylinder.

It will also feature the Advantage tissue technology including a ViscoNip press, and AirCap hood and a SoftReel reel.

Founded in 1952, FHH is a leading company in the hygiene industry and one of Nuqul Group's companies.

Three Valmet tissue machines have already been installed at the FHH mills - Al Bardi Paper Mill and Al Sindian Paper Mill in Egypt and Al Snobar Paper Mill in Jordan.

CHINA

China unveils 2014 closure results; 5.47 million tpy of old pulp and paper capacity scrapped

China has recently publicised its 2014 old capacity closure campaign results, confirming some 5.47 million tpy of pulp and paper (P&P) capacity was removed. The Ministry of Industry and Information Technology (MIIT) revealed the shutdown results for 18 industries including the P&P sector.

The announced figure of 5.47 million tpy was higher than the goal of 4.92 million tpy announced for the year.

In previous years, the final closure results also surpassed the original goals.

The shuttered capacity in 2011, 2012 and 2013 was 8.31 million tpy, 10.57 tpy and 8.31 million tpy respectively, all exceeding the goals of 8.20 million tpy, 9.95 million tpy and 7.42 million tpy.

The obsolete capacity closure campaign

2011 to 2014 had already surpassed the overall goal proposed for 2011 to 2015. According to the five-year plan put forward in 2011, at least 10 million tpy of old P&P capacity were to be got rid of by the end of 2015.

The capacity removed from 2011

The obsolete capacity closure campaign has been carried out for years in the country to realise cleaner production. Most targeted equipment is small and outdated.

and 2014 totalled 32.66 million tpy, surpassing it by far.

Separately, local authorities in the city of Dongguan in Guangdong province vowed to permanently shut down 54 small paper and board mills.

The targeted mills are board plants with a capacity below 200,000tpy and tissue mills with a capacity of less than 50,000tpy.

Local media reported that 53 mills have

P&P machines to be retired under the 2014 guidelines included wood pulp lines with a capacity below 51,000tpy, nonwood pulp lines below 34,000tpy, recycled fibre-based pulp lines below 10,000tpy, newsprint machines with a capacity under 50,000tpy, printing and writing paper units less than 1.76m wide and with a speed below 120m/min, and cartonboard and recycled containerboard machines less than 2m wide and slower than 80m/min.

has been carried out for years in the country to realise cleaner production. Most targeted equipment is small and outdated.

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No national 2015 plan: The MIIT did not reveal a closure plan for this year.

A news release on the ministry's website indicated that the shutdown results from

already halted production, and the remaining one will shut down by the end of this year.

News from RISI (www.risiinfo.com)

Guizhou Chitianhua signs up for two Steel Yankees

China's Guizhou Chitianhua has invested in two 20 foot Andritz-supplied Steel Yankee tissue machines.

TM5 and TM6 will be installed at the company's mill in Chishui city, Guizhou Province.

They will produce high-quality facial wipes, toilet paper and handkerchief paper; start-up of TM5 is scheduled for the end of 2016 and TM6 for the beginning of 2017.

The new PrimeLineST tissue machines have a design speed of 2,000 metres per minute and a paper width of 5.6 metres. Andritz said these machines are unique

in the market as they combine a high-performance Yankee with a steam-heated hood.

Both Yankees for Guizhou Chitianhua are made entirely of steel, have a diameter of 20 feet, and are among the largest in the world.

YFY brings first of two medium-sized tissue machines on stream in China

Taiwan's Yuen Foong Yu (YFY) has started up a 27,000tpy tissue paper machine at its mill in Zhaoqing city, Guangdong province, China.

Guangdong Dingfeng Paper, the YFY subsidiary operating the facility, kicked off trial runs on the machine, PM1, on 8 December.

The unit was subsequently shut for a few days for fine-tuning before restarting on 14 December.

"The machine has been running smoothly without any hiccups. We are pleased with its performance", a spokesman said. The PMP Group supplied the 2.8 m-wide unit, which has an operating speed of 1,600m/min and features a 16-foot yankee dryer. It has a daily production rate of 75 tonnes.

It produces virgin fibre-based tissue in the basis weight range of 13-31.3g/m² for conversion into facial tissues, toilet rolls and kitchen towels.

At the Zhaoqing plant, an identical PMP tissue machine, PM2, is being erected, with startup scheduled for late January 2016.

The two machines will be partially integrated with the mill's 130,000tpy bleached hardwood kraft pulp line.

Woodchips that feed the pulp line are from 30,000ha of eucalyptus plantations in the area around the plant.

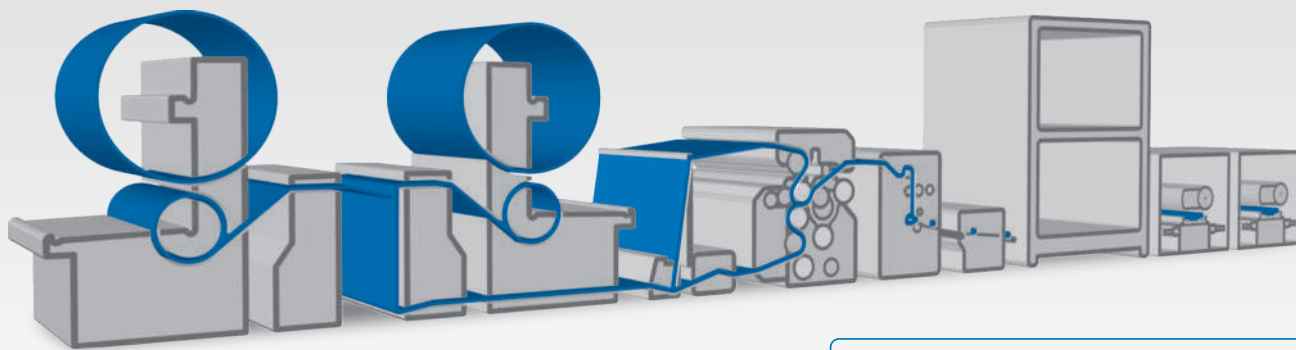
"Our vertical integration provides us a cost edge, to help gain a foothold in the local market," stated the spokesman.

Guangdong Dingfeng aims to manufacture parent rolls on the two machines and sell them to customers in the southeast of the country, where the facility is located.

"The Chinese tissue market is seeing bad overcapacity. We are just a small player, and we will not take the unnecessary risk of ambitious plans, such as producing end-products and branding them. That would cost a great deal of money," the spokesman said.

News from RISI (www.risiinfo.com)

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Tissue mills in Baoding, China keep expanding

Two small tissue mills in Baoding city, Hebei province, recently ordered four new tissue PMs with a combined capacity of 80,000tpy.

On 22 January, Hebei Jinboshi Group signed up PMP Group to supply a pair of 27,000tpy tissue PMs.

Each unit will have a trim width of 3.65m and a design speed of 1,200m/min.

With a daily capacity of around 75 tonnes, each PM will be able to produce tissue in a basis weight range of 12.5-25g/m².

The first PM is scheduled to start up at the end of 2016, followed by the second in mid-2017.

The firm currently has a tissue capacity of around 23,000tpy at a mill in Mancheng County.

Also in Mancheng, Baoding Yusen Paper placed an order for two 13,000tpy tissue PMs on 18 January.

Weifang Hicredit Machinery has been chosen to provide the units, each of which will be 2.85m wide and have a design speed of 1,000m/min.

The firm started up an identical Hicredit PM in September 2015, bringing its

present tissue capacity to around 63,000tpy.

More PMs coming in Baoding: There is a trend towards expansions at mills in Baoding as environmental standards get stricter.

Hebei Xuesong Paper brought one 21,000tpy PMP tissue PM online each year in 2014 and 2015, boosting its tissue capacity to 67,000tpy.

And Hebei Yihoucheng Commodity will fire up a 25,000tpy tissue PM from Andritz in mid-year.

It currently operates an identical 25,000tpy PM.

The investment frenzy is being attributed primarily to environment protection pressures.

Mancheng has long been a hub for small tissue mills with a combined capacity of around 1.2 million tpy.

The county, which is near Beijing, has been blamed for serious water and air contamination from the tissue industry.

To address the issue, the local government has been mandating closures of small boilers at individual mills, and is working to introduce a cleaner central power supply system.

And mills are trying to invest in new PMs, replacing older ones with higher emissions.

Although the Chinese tissue sector is facing overcapacity, Mancheng is believed to still have growth potential due to the Chinese government's strategy to encourage regional growth in Beijing and neighbouring Tianjin municipality and Hebei province.

China has mapped out a Beijing-Tianjin-Hebei (called "Jing-Jin-Ji" in their abbreviations) integrated development programme.

According to the Jing-Jin-Ji strategy, Beijing will be the national centre of political, cultural, and international exchange activities as well as a technological innovation centre.

The strategy will see the relocation of such functions as manufacturing, education, medical services and regional logistics from Beijing to its neighbours, which will help adjust the regional economic structure.

Along the way, priority will be given to issues such as environmental protection and industrial upgrades.

Thus, the strategy is seen as a great opportunity for Mancheng mills to install new PMs to meet the environmental regulations, as an alternative to quitting the market.

News from RISI (www.risiinfo.com)

SOUTH AFRICA

Universal launches interactive game of snakes and ladders tissue products

Tissue producer Universal has launched a new and unique product into the South African market: the Dinu Décor Collection Multi packs. Forming part of the Dinu Décor Collection of 2-ply printed tissue products, the Multi range comprises household towel as well as bathroom tissue with each pack showcasing a different design per roll of product.

There are 10 different designs to choose from in the household towel Multi range and a total of 26 different designs in the bathroom tissue Multi range. The designs range from an interactive game of snakes and ladders to inspirational quotes on the household towel right through to Sudoku, jokes and more on the bathroom tissue.

All Dinu products are FSC®-certified and the inks used on the paper have been dermatologically tested and approved for safe use on your skin. The Dinu Multi household towel packs have further been ISEGA food-grade certified which means that the paper is safe for coming into contact with foodstuffs.



Egypt and Jordan – holding on to progress despite the region's economic and political challenges



Bill Burns

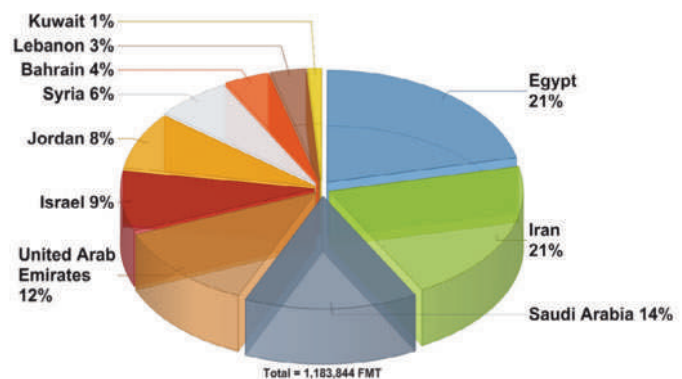
senior consultant,
Fisher International

The Middle East and Africa represent about 2% each of the global Towel and Tissue (T&T) capacity. If you consider Egypt as more a part of the Middle East than Africa the Middle East would still only represent 3% of the total global T&T capacity. For this paper we will consider the Middle East including Egypt and provide country profiles for both Egypt and Jordan.

In composite Egypt-Middle East totals about 1.2 million metric tonnes of T&T capacity. Egypt and Iran hold the highest share position at 21% each while Jordan has a much smaller 8% share (Figure 1). Actual capacity for Egypt is slightly higher than Iran and about 2.5 times that of Jordan (Figure 2).

Egypt's position is a fairly recent phenomenon, experiencing a steady growth rate of 11.6% CAGR (cumulative average growth rate) over

Middle East and Egypt T&T Capacity Share



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Figure 1 Middle East and Egypt T&T Production



Cairo's Opera House, Al Hurriyah Park and the Nile river. Photograph by Jorge Láscar (Creative Commons license – <https://www.flickr.com/photos/jlascar/14797782354>)

the past seven years (Figure 3). Jordan, on the other hand, has not grown over the same period. Typically economic conditions in the country and population dynamics are behind paper industry growth.

Historical economic conditions for Egypt and Jordan have a very similar trend with GDP of both countries trailing off from ~7.5% to ~2.5% with the 2008-2009 global recession (Figure 4). Capacity per capita shows that Egypt had surged for a couple of years then levelled out while Jordan has steadily decreased over the seven-year period (Figure 4). The machine base in the Middle East is predominantly very modest in size so the growth history is reflected by increasing number of machines over time.

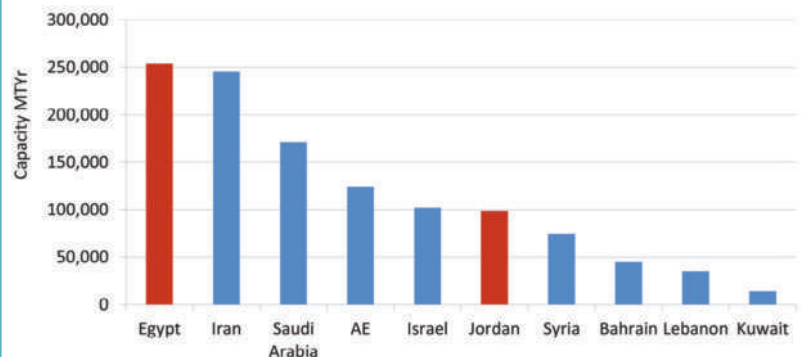
Egypt's position is a fairly recent phenomenon, experiencing a steady growth rate of 11.6% CAGR (cumulative average growth rate) over the past seven years (Figure 3). Jordan, on the other hand, has not grown over the same period.

A time line of machine installations illustrates investment developments in the area and the absence of recent activity in Jordan is consistent with its decline in per capita capacity (Figure 5).

External markets and competitors are also a consideration when assessing growth. Logical markets and potential competitive threats within reasonable transportation distances overlap for Egypt and Jordan. Figure 6 is a plot of potential markets and competitive mills within 2,000km representing the market range for both countries. The area, which includes Turkey and Greece, is rich in T&T making suggesting import pressure likely to outweigh export opportunities. Consequently, the market will be mostly local.

Worldwide, in general, as well as in the Middle East, fibre is the largest cost factor for T&T paper making and a key factor in competitiveness. Generally, integrated fibre is lower cost than purchased with integrated secondary being lower cost than virgin. Market pulp is on the top end of the cost scale. The fibre mix in the Middle East is a combination of recycled and market pulp with a bias toward market pulp. Egypt and Jordan have similar mixes with relatively small amount of recycled at ~15% (Figure 7).

Middle East and Egypt T&T Capacity

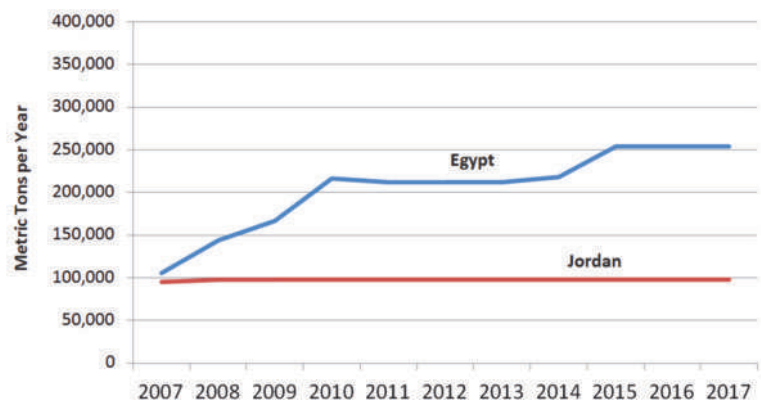


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Figure 2 Worldwide T&T Capacity

Egypt and Jordan T&T Capacity Trend 2016–2017 Projected from Announcements

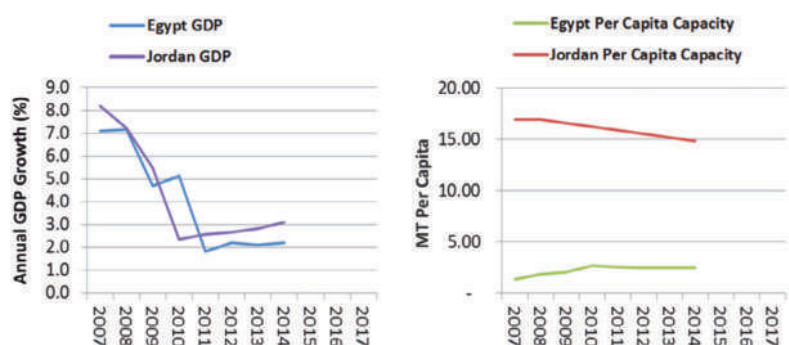


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Figure 3 Egypt and Jordan T&T Capacity Trend

Egypt and Jordan T&T Growth Factors

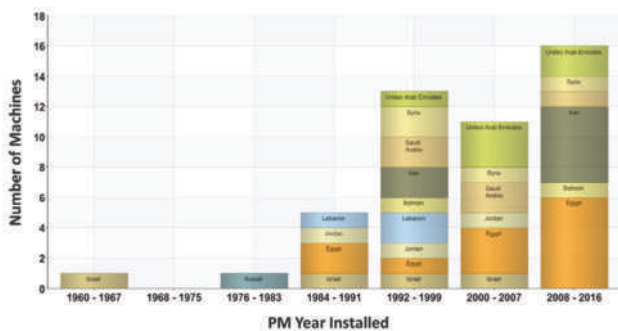


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Figure 4 Egypt and Jordan T&T Growth Factors

Middle East and Egypt Paper Machine Growth Trend



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Figure 5 Middle East and Egypt Paper Machine Growth Trend

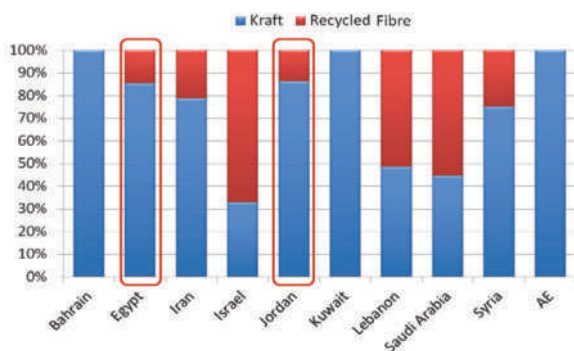
Transportation Logic
Potential Markets and Competitors

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Figure 6 Transportation Logic

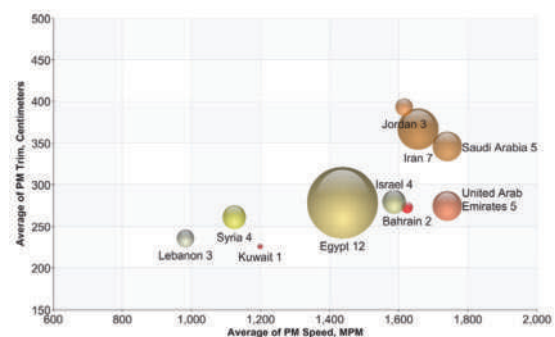
Middle East and Egypt T&T Fibre Mix by Country



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Figure 7 Middle East and Egypt T&T Fibre Mix by Country

Middle East and Egypt T&T Machine Dimensions
Bubble Size Is Number of Machines by Country

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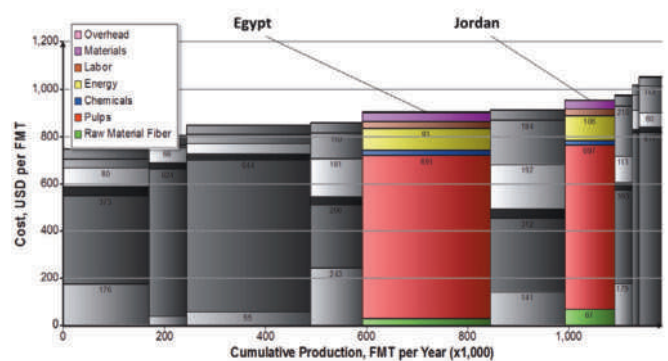
Figure 8 Middle East and Egypt T&T Machine Dimensions

Machine configuration is also a consideration in cost to produce. Slow narrow machines have poorer production rates than fast wide machines when running at similar efficiencies. Egypt and Jordan machines are narrow with very respectable speeds. Jordan machines are on average wider than Egypt at 3.5 metres versus 2.5 metres. Jordan machines also average faster with run rates of approximately 2,000mpm (Figure 8). Within the area, Egypt and Jordan are similar in paper cost with both countries in the third quartile of area cost (Figure 9).

Head to head Egypt has a slight cost advantage at the paper machine level. Key drivers for the difference lie in about \$60 FMT fibre and energy cost in Egypt. Carbon footprint is a potential future cost issue for many T&T mills (Figure 10). Egypt and Jordan are both in an advantageous first-or second-quartile emissions rate position for the area. Internationally they are both second-quartile with Jordan very near the median.

The source for market data and analysis in this article is FisherSolve™. Data tables behind Figures 1-10 can be obtained from Fisher International. E-mail requests to info@fisheri.com.

Middle East and Egypt T&T Cumulative Cost Curve

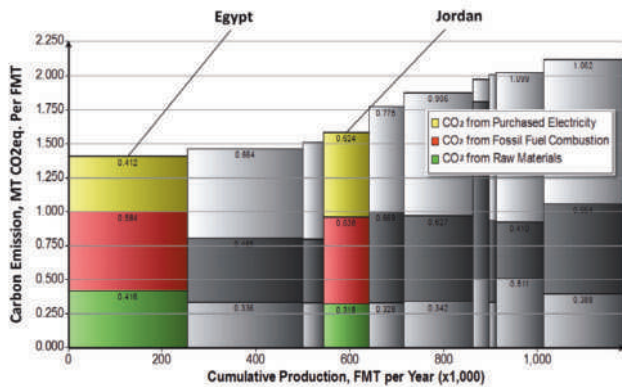


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Figure 9 Middle East and Egypt T&T Cumulative Cost Curve

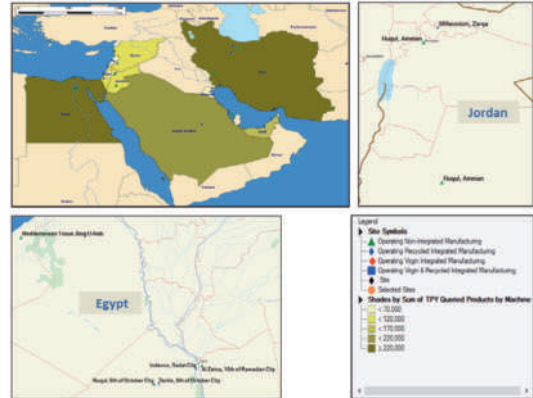
Middle East and Egypt T&T Carbon Emission Curve



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Egypt and Jordan T&T Mill Locations



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Figure 10 Middle East and Egypt T&T Carbon Emission Curve

Figure 11 Egypt and Jordan T&T mill locations

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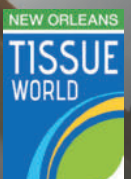
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Egypt: price sensitivity shapes consumer tissue demand

With population approaching 88 million in 2015, Egypt is the most populous country in the Middle East and is expected to add another 12.3 million inhabitants by 2020. Per capita consumption of retail tissue in the country stands at less than 1 kg compared to anywhere between 9 kg and 14 kg per capita in the developed regions, thereby offering a significant potential for further industry growth. In pursuit of this growth, domestic and international manufacturers have been investing in tissue production in the country. One of the latest projects by Turkey based Hayat Kimya is set to open in 2016, with a production capacity of 70,000 tonnes of tissue per year.

also saw a fall in foreign investment and tourism revenues, a 60% decline in foreign exchange reserves and a devaluation of the Egyptian pound.

2014 shaped out to be the start of a recovery period with the country's real GDP growing by 2.2% in 2014 and gains of 3.8% are expected in 2015. Public investment in infrastructure and growth in private final consumption are the main drivers for the modest GDP bump. Per capita disposable income in Egypt amounted to EGP 22,883 (US\$3,235 at 2014 fixed exchange rate) in 2014, with modest further increases anticipated in 2015. Private final consumption rose by 2.2% in real terms during 2014, and gains of 3.2% are expected for 2015. On the other hand, remittances - a crucial support for consumer spending in the country - rose by 10.0% in 2014 but slowed down in 2015. Furthermore, the slow implementation of new projects, ongoing security concerns and a steep drop in exports remain a problem that looks to hamper all sectors of the economy and society.

In the midst of the good and the bad, tissue consumption in the country remains centred on two main categories – facial tissue



Moustafa Sheta



Euromonitor Research Associate, Egypt

"In the midst of the good and the bad, tissue consumption in the country remains centred on two main categories – facial tissue and toilet paper - while price sensitivity and budget concerns continues to play a crucial role in purchasing decisions of many Egyptians."

However, in recent years, political conflicts and protracted transition in Egypt led to sharp drops in economic growth and resulted in a significant rise in unemployment. The country

Egypt, retail tissue volume, tonnes, % year-on-year growth

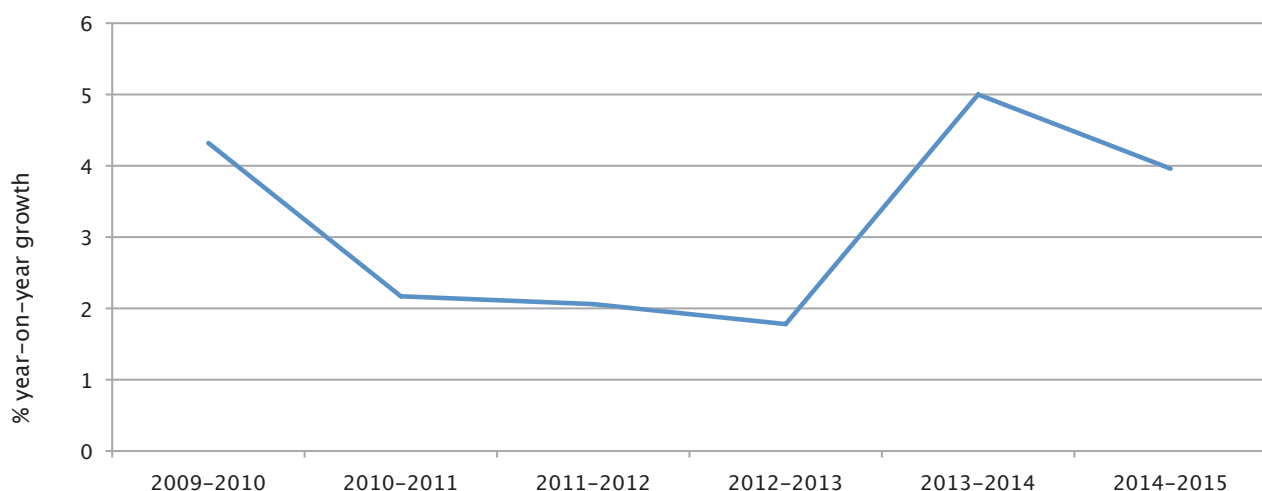


Table 1: Egypt, retail tissue volume, tonnes, % year-on-year growth

and toilet paper - while price sensitivity and budget concerns continues to play a crucial role in purchasing decisions of many Egyptians.

Affordability and product awareness define consumer preferences

In 2015, retail tissue volume in the country grew by an estimated 4% on the back of somewhat improved economic and more stable political situation for the larger part of 2015. Furthermore, the rise of modern retail outlets across the country's urban centres continues to play a pivotal role in supporting consumer demand. Retail chains, such as Seoudi hypermarket operating seven outlets in Cairo, allow consumer access to a wide range of products at competitive pricing. Product and price promotions have increasingly become a common practice to attract shoppers.

Growth in consumer tissue consumption is still coming primarily from large urban areas, Cairo, Alexandria and Ismailiya. Egyptian urbanites, however, show more preference for better quality products. This tendency creates a good platform for more innovative, better quality and value-added products. However, many urban households also remain price sensitive, and shoppers spend their weekends looking for best deals and lower prices.

In the Delta and rural regions the consumption is mainly supported by a limited number of high income households, which purchase toilet paper and small packages of pocket handkerchiefs. The lower income households continue to rely primarily on traditional hygiene methods, such as water and washable cloths. Limited incomes and poorer demand for consumer tissue in smaller towns and rural areas impact the distribution and product availability in these areas, where retailers typically stock a limited selection of lower quality local products at a low price.

Toilet paper remains one of the key tissue categories in Egyptian retail accounting for estimated 44% volume share of consumer tissue retail sales

"Pocket handkerchiefs remain the most popular format of facial tissue in Egypt, accounting for 80% of the total facial tissue volume sales. The category also witnessed a growth of 4% in retail volume in 2015. The popularity of pocket handkerchiefs is mainly explained by convenience, portability and lower cost, compared to boxed options."

in 2015. The category also continues to see a positive trend in demand. However, increase in taxes and costs of living in 2015, along with major currency devaluation which saw the US dollar reach EGP 8.14 in late October of 2015, led to a consumer shift in purchase preferences, and many Egyptians turned towards smaller packaging for their immediate needs rather than buy in bulk and incur significant upfront costs. In 2015, sales of toilet paper in Egypt's retail saw a marginal decline in value (US\$ constant, 2014 fixed exchange rate). In volume terms, however, positive growth continued, from a little over 19 thousand tonnes in 2014 to close to 20 thousand tonnes in 2015.

Packages of two, six and nine rolls are the most popular sizes in Egyptian retail. Leading toilet paper brands include Softis, Fine and Flora, ranging from EGP 3.00 to EGP 10.00 (US\$ 0.4-1.3) for a pack of nine toilet paper rolls.

With per capita consumption of toilet paper at just 0.2 kg, the category has a significant potential to grow. However, as mentioned earlier, traditional methods of cleansing - water cleansing and bidets - remain popular in many households, due in large part to low incomes and in part to cultural influences.

Advertising and marketing of toilet paper in Egypt remains limited and mainly involves in-store promotions. While the latter can help to encourage purchases among shoppers already visiting the stores, lack of significant marketing to support the use of toilet paper in place of more traditional methods might be limiting consumer awareness and inhibiting growth.

Facial tissue also continues to see a generally positive retail sales trajectory in Egypt, gaining another 4% in volume in 2015. Middle to upper income urban households are still the main purchasers of facial tissues. However, product ranges increasingly cover both premium and economy segments of the category and come in a variety of packages to encourage wider use, beyond wealthy households. In boxed facial tissue, for instance, Fine brand of facial tissues marketed by Al Bardi Paper Mill provides a more premium product range priced at EGP 4.00 (US\$ 0.5) for a box of 200 tissues, while Romance brand marketed by Romance Tissue Company offers a value option with a box of 550 sheets retailing for EGP 4.50 (US\$ 0.57). Similar to toilet paper, however, boxed facial tissue manufacturers rely mainly on in-store promotion to market their products, with other forms of advertising being extremely limited.

Pocket handkerchiefs remain the most popular format of facial tissue in Egypt, accounting for 80% of the total facial tissue volume sales. The category also witnessed a growth of 4% in retail volume in 2015. The popularity of pocket handkerchiefs is mainly explained by convenience, portability and lower cost, compared to boxed options.

While still very small in actual volume, paper napkins posted a healthy volume growth of 3% in 2015, following several years of negative sales trend. However, the key consumer base for paper napkins still comes from wealthy households. Just like in toilet paper and facial tissues, advertising of paper napkins is mainly limited to in-store promotions. Nonetheless, paper napkins

Egypt, retail consumer tissue volume by category, % year-on-year-growth

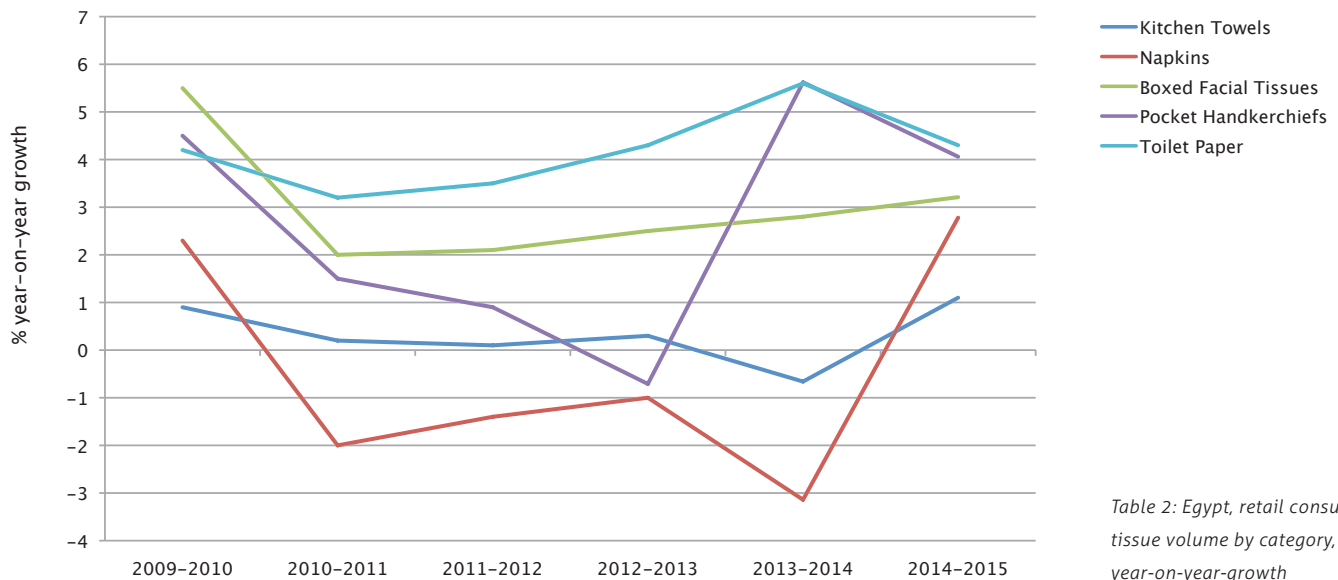


Table 2: Egypt, retail consumer tissue volume by category, % year-on-year-growth

have become more visible at festivities and gatherings by wealthier urbanites, in particular during Ramadan and Eid. High income households also show a tendency to purchase paper tablecloths, from full table cloth format to formats like table runners. Quality and visual presentation are important to wealthier consumer group, thereby creating opportunities to develop and promote better quality and design napkins as well as other paper tableware types.

Bumpy road ahead

During the period 2013-2030, total disposable income in Egypt is expected to increase by a cumulative 76.8% in real terms – growing at an average annual rate of 3.4%. Additionally, relative political stability and improved economic conditions are expected to support further consumer demand for tissue products. It has to be added, however,

that high level of price sensitivity among Egyptians can have a negative effect on the retail tissue if political situation and economic conditions worsen. Crash of the Russian jet in November of 2015 did not help the matters, rising security concerns and affecting negatively the tourism industry. In fact, the country expected tourism revenues to reach US\$9 billion in the fourth quarter of the year. However, after the crash the figure was revised down to US\$8 billion.

Current Euromonitor forecast projects retail tissue volumes to see a healthy 3% CAGR through to 2020, driven by population growth, enabled by increase in disposable incomes, and encouraged by modernization of retailing that provides access to wider range of consumer tissue products and brands.

Higher income households, especially in urban areas, will provide a platform

for further industry growth and will encourage innovation along the lines of product premiumisation and sophistication. However, the majority of Egyptians remain price sensitive. This tendency will continue to influence the demand, with significant focus on affordable and essential products.

Toilet paper and facial tissue will likely remain the key retail consumer tissue categories in the country in the foreseeable future, although demand for napkins will continue to pick up in high income urban households. On the other hand, kitchen towels will still rank low on the scale of household priorities, with expected only a modest 1% increase in retail volume sales through 2020.

To drive consumption beyond wealthy urbanites, retailers and manufacturers will need to develop inexpensive quality products as well as build distribution and advertising strategies with emphasis on value and value for money.

While consumer tissue industry in Egypt can expect a bumpy road ahead, long-term prospects remain positive. Low level of household penetration, coupled with urbanisation, modernisation and a rise in disposable incomes, create a good platform for future industry growth.

“Higher income households, especially in urban areas, will provide a platform for further industry growth and will encourage innovation along the lines of product premiumisation and sophistication. However, the majority of Egyptians remain price sensitive. This tendency will continue to influence the demand, with significant focus on affordable and essential products.”

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FORWARD

IPI aims to strengthen its reach overseas

Faced with regional jumbo roll overcapacity, the loss of energy cost leverage, traditional neighbouring markets hit by security issues, Egypt's Interstate Paper Industries' strategy is to find new potential growth ... and offer high value added products.

Established in 2009 in Sadat City, Egypt, Interstate Paper Industries (IPI) is a member of INDEVCO Paper Making (IPM), a division of the INDEVCO Group.

It manufactures a wide range of jumbo tissue rolls for the facial tissue, table napkins, toilet tissue markets as well as selling to household towel converters. IPI specialises in producing various grades of virgin, recycled and partially recycled jumbo tissue rolls.

IPM operates four mills: a tissue mill in Egypt (Interstate Paper Industries), another tissue mill in Lebanon and two paper mills in the USA. TWM talks to IPM vice president Imad Issa El Khoury.

0

Helen Morris

Editor,
Tissue World magazine

"Our most recent investment is an upgrade of the de-inking plant. The aim of this investment is to increase its recycling capacity and improve its quality."

TWM/3

Are you looking to grow substantially?

"Our target for the next three years is to add one more machine to serve the international market. This will be done by acquisition or by installation of one new machine."

TWM/1

How much tissue do you produce per year?

"Our tissue plant in Egypt produces 66,000MT/ year of tissue jumbo rolls for local and international tissue converters."

TWM/2

What recent machinery investments have you made and why?

TWM/4

How much of your production do you export?

"We are exporting more than 80% of our jumbo tissue rolls production mainly to Europe, GCC and Africa, and our intention is to further increase our export volume."

By Tissue World magazine editor Helen Morris



"IPM operates four mills: a tissue mill in Egypt (Interstate Paper Industries), another tissue mill in Lebanon and two paper mills in the USA."



"Egypt has been a major regional player during the last few years. Recent energy price increases in Egypt ... worldwide energy price decreases and currency devaluation ... and the loss of traditional markets facing security issues ... means we are exporting more than 80% of our jumbo tissue rolls production mainly to Europe, the Gulf Cooperation Council states and Africa, and our intention is to further increase the amount of production we're exporting."

IPM vice president Imad Issa El Khoury

1955

Established the Industrial Development Company (INDEVCO Group) in Ajaltoun, Lebanon

2005

Expansion of UTM in Lebanon and the installation of a second tissue machine, PM2

1950

Indevco Group: Timeline

1995

Established UNIPAK Tissue Mill (UTM), a division of Union Packaging Corporation (UNIPAK), in Halat Lebanon. Installation of the first tissue machine, PM1, in April

By Tissue World magazine editor **Helen Morris**

(*GCC is the Cooperation Council for the Arab States of the Gulf, the regional intergovernmental political and economic union consisting of all Arab states of the Persian Gulf, barring Iraq.)

TWM/5 Are you seeing growth in your local tissue market?

"Egypt produces around 225,000TPY of jumbo tissue rolls; only around 100,000 tonnes are being converted locally and around 125,000 tonnes are being exported.

"In 2015, growth in locally converted tissue was estimated at around 2%; it was severely affected by a decrease in conventional export to neighbouring countries that were facing security problems such as Libya, Syria, Yemen and the Gaza District."

TWM/6 Are you expecting that growth to continue?

"World tissue growth is about 3% i.e. one million tonnes per year and we expect the growth to be the same for the next three years."

TWM/7 How is your country's economy affecting the tissue market?

"Egypt has been a major regional player during the last few years (coming second behind Turkey); recent energy price increases in Egypt coupled with the worldwide energy price decrease, as well as Euro and GBP currency devaluation versus the dollar, have negatively affected our profitability."

TWM/8 Is there overcapacity in your local tissue market?

"Egypt's overcapacity is about 125,000MT, so our strategy is to export to other potential markets."

TWM/9 Are you seeing much demand/increase in demand for environmentally-friendly tissue products?

"Yes, but not in Egypt. Mainly in Europe and some African countries. We're seeing demand there for FSC, Eco Label, Swan label, etc."

TWM/10 What are the main challenges for you in the next five years?

1. Tissue jumbo rolls' overcapacity in our region (mainly Turkey and North Africa).
2. The loss of energy cost leverage (i.e. the gas price in Egypt is double the international price).
3. GBP, Euro devaluation vs. US\$.
4. Regional political instability.

TWM/11 What are the main opportunities for you in the next five years?

"Developing our export markets and giving our customers high value added products."

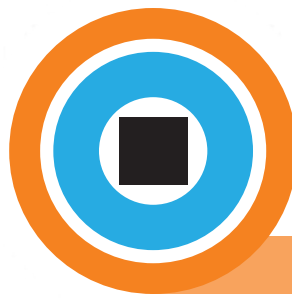
2009 Establishment of Interstate Paper Industries (IPI) in Sadat City, Egypt, as a member of IPM. Installation of the third machine, PM3

2012 Relocation of PM2 from UNIPAK Tissue Mill Lebanon to Interstate Paper Industries in Sadat City, Egypt

2007 Establishment of INDEVCO Paper Making (IPM) in Halat as a division of INDEVCO Group

2010 Installation of the fourth tissue machine, PM4

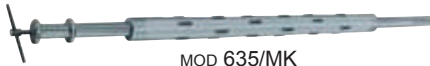
2016



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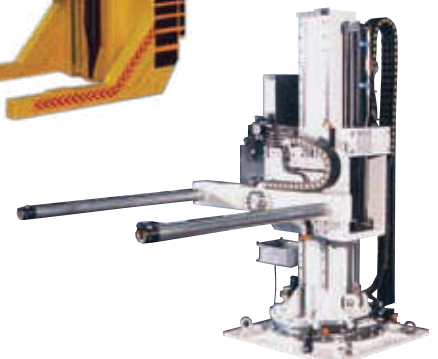
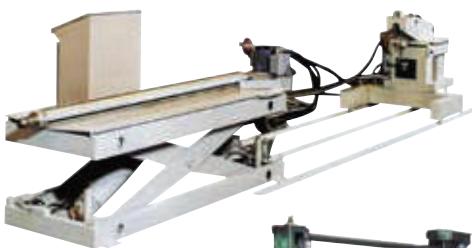


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"Our vision is to become the undisputed market leader in Egypt and North Africa."

Keen for growth, Zeina Group founder and chairman Abdul Karim Natout talks to TWM about market potential in Egypt and beyond.

With an impressive annual production capacity of 32,000 tonnes and an efficient operational speed of 2,000mt/minute, Al Zeina's cutting edge tissue mill is a milestone in Egypt's tissue industry, covering diversified needs, ranging from facial products to medical rolls.

TWM talks to founder and chairman Abdul Karim Natout.

TWM/1 **What tissue sectors are you in?**

"Zeina Group was founded in 1988 with 1,200 staff among three entities: the tissue mill, the converting factory and the distribution company. The tissue mill produces 32,000 tonnes

"The distribution company distributes "Zeina" products all over Egypt across the 27 governorates. It is also the sole distributor of the Japanese hygienic guru "Unicharm", one of the leading producers of baby diapers and Feminine pads."

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Helen Morris

Editor,
Tissue World magazine

of which 56% are consumed by our converting factory and the remaining 44% are sold to tissue manufacturers worldwide. The converting factory produces facial tissues, pocket hankies, kitchen towels, toilet rolls, table napkins and away from home products; 90% of our converted products sales are for the local market under our brand name "Zeina".

"The distribution company distributes "Zeina" products all over Egypt across the 27 governorates. It is also the sole distributor of the Japanese hygienic guru "Unicharm", one of the leading producers of baby diapers and Feminine pads."

TWM/2 **Have you made any recent investments in machinery and if so what and why did you make this particular investment?**



Zeina's converting factory

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By Tissue World magazine editor **Helen Morris**

Some 90% of converted products sales are for the local market under brand name "Zeina"

"Yes, our investments are on-going to serve the emerging market needs. For the converting factory, we have invested in new machinery for facial tissues, toilet and kitchen as well as the Away-from-Home products in order to improve both capacity and product ranges. As for the tissue mill, we are doing regular updates to improve product specifications and efficiency."

"Export represents 44% of our tissue jumbo rolls sales and 10% of the converted finished products. We export to few markets in Europe, Middle East and North Africa."

TWM/3 **Are you looking to grow substantially and if so, how and in what markets?**

"We are eager for growth as we are one of the main two key players in the Egyptian market, as we are striving to grow, have started a full company restructure in 2014 to unleash every possible opportunity, our growth is dual focus vertically and horizontally. We have invested in new machinery for the converting factory to build up capacity and increase product ranges to satisfy consumer and customer needs. We are also expanding our customer coverage, opening new distributions channels and exporting to new markets to achieve our converting business targets. Our vision is to become the undisputed market leader in Egypt and North Africa."

TWM/5 **Are you seeing much increase in demand in your local tissue market?**

"The market is very small and still developing with an annual growth rate of around 10%. Our heritage in the Egyptian tissue market and strong brand name "Zeina" along with our recent initiatives contributed to the double digit growth rate achievement in the last few years. As for the private label demand, it is very low in the local market and requested mainly for export."

TWM/6 **How is your country economy affecting the tissue market?**

"The market is constantly growing but running a business in Egypt is very sophisticated and requires a well-established brand and constant investment and updates which is not easy due to the economic constraints and the political instability as well as currency exchange rate and USD unavailability."

TWM/4 **How much of your production do you export and where are you looking to export more into?**

By Tissue World magazine editor **Helen Morris***The company's Converting plant 2*

TWM/7 **Is there overcapacity in your local tissue market? If so how are you dealing with that?**

"Egypt is a developing country, the consumption per capita ranges from 700 – 1,000 grams compared to 5kg per capita in the Middle East, the development of the country and consumer product education is the sole solution to the overcapacity problem."

"The Egyptian consumer mindset and culture doesn't promote environmental-friendly products to a great level. This market is still primitive with great room for development in the future."

TWM/8 **Are you seeing much demand/increase in demand for environmentally-friendly tissue products?**

"The Egyptian consumer mindset and culture doesn't promote environmental-friendly products to a great level. This market is still primitive with great room for development in the future."

TWM/9 **What are the main challenges for you in the next five years?**

"The main challenges are mainly concluded in economy constrains, currency exchange rates, USD availability and the current political situation. It is hard to succeed but is harder to maintain success."

TWM/10 **What are the main opportunities for you in the next five years?**

"The opportunities can be summed up in Away-from-Home products, efficiency and cost saving. Also, soon we will need another tissue mill for exporting because we are expected to use our mill's full capacity very soon."

AT A GLANCE

Location: Cairo, Egypt

Products: toilet paper, kitchen towel, pocket tissue, napkins, facial boxes, kids tissues

Founded: 1988 by Engineer Abdul Karim Natout

Staff: 1,200

Annual capacity: 32,000tpy

*Zeina Group's Al Zeina Tissue Mill*

Target: Egypt's distinctive facial tissue preference

At more than half the tissue market in volume and marketed in boxes and plastic covers, Hayat Kimya sees a chance to advance a unique cultural choice.



Lütfi Aydın, Hayat Kimya's paper group director

Turkey's Hayat Kimya has been on a steady expansion path for many years. With tissue and paper facilities brought on stream in countries including Russia, Iran and Bosnia Herzegovina, as well as further plants in Turkey, the company is now preparing to launch a tissue site in Egypt.

A 70,000tpy Valmet-supplied tissue PM has been ordered for the Egyptian factory, which will be located in Ain Sokhna by the Red Sea. Production is expected to start at the end of 2016.

Lütfi Aydın, Hayat Kimya's paper group director, explains why the company has chosen the Egyptian tissue market to expand further into.

"Hayat Kimya has operated a hygiene plant in Egypt since 2012 and has accumulated a considerable amount of consumer understanding to expand its business in the tissue category.

"The Egyptian tissue market is heavily dominated by local players, and we only saw investment by some of these players in tissue mills between 2005 and 2007.

"According to Nielsen data, Egypt differentiates from other European markets with its facial tissue usage. Facial tissue makes up more than half of the tissue market in volume (55%), whereas it makes a relatively smaller portion in Europe.

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Helen Morris

Editor,
Tissue World magazine

"What's interesting about facial tissue in Egypt is that it is not only offered in boxes but in plastic covers. Moreover, toilet paper volume is rather small (20%) in the tissue market and the most common products are two-roll packs due to small stock area in the traditional market selling points, which makes 80% of trade.

"In addition, Egyptians are price sensitive, and therefore they prefer to buy as per their need, as opposed to planned purchases from supermarkets.

"Another interesting fact about the Egypt market is that compressed and large sized B2B toilet papers were initially planned/produced for B2B and Away-from-Home channels but have now become premium perceived end-consumer products.

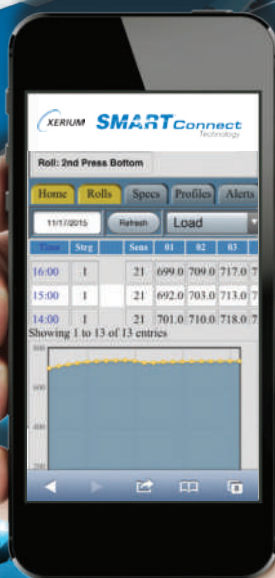
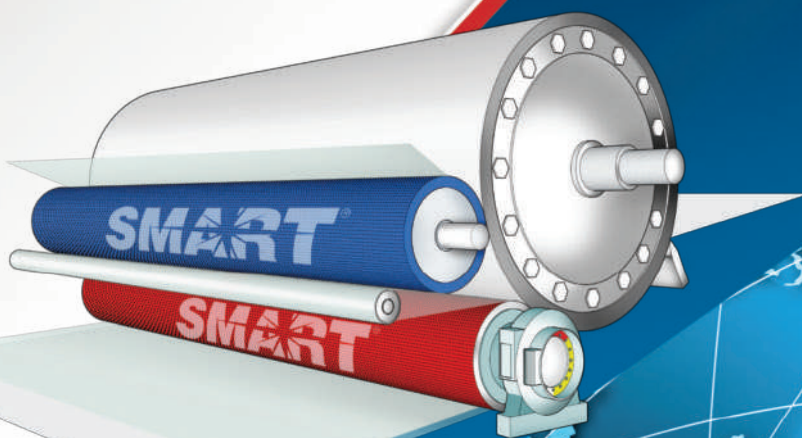
"The Egyptian market offers growth potential and consumers have demand for better products. Hayat Kimya is determined to continue its investments in the country."

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And baby makes three ... plus lots more tissue product

With a first child on the way, soon-to-be-dad Anders Wendel, originally from Denmark but now living and working in London, suspects he'll soon be learning a lot more that he used to know about triple ply, absorbency levels and wet wipes



"I live with my fiancé in East London and I think our household is fairly normal in our use of tissue products. We use toilet paper, kitchen roll, Kleenex products and serviettes. But that is all going to change in the near future as we are expecting our first child, so I suspect more tissue products that I never knew I needed will sneak their way onto our household shopping list, which I'm not too happy about.

"Kitchen towel is a really versatile product and we use it mainly as a napkin than in the kitchen for wiping up stuff. It seems a waste to use paper just because you've spilt a bit of tomato

sauce so for that we use a sponge or a cloth. On normal days we use kitchen towels for mealtime as napkins and when we have people over for dinner we use store-bought serviettes. It just looks a bit nicer and makes the experience of eating more enjoyable.

"For buying tissue products, I don't really give it much thought. The main thing is ease of purchase and I also like to buy good quality, especially for toilet paper. In terms of branded or private label, I generally don't give it much notice and just go for soft and multi-layered products. There is nothing worse than using really cheap paper; it is not a comfortable experience.

"Only after meeting my fiancé have I really started to give the environment and sustainability more thought. Before that, it was never a priority. She cares a great deal about the environment, which I admire a lot."

"We always go and buy in bulk from the local supermarket. We either go to our local discount store Lidl, which usually has a number of deals for bulk buying high-quality tissue products, or the supermarket Sainsbury's, which also has a lot of good deals on but is slightly more expensive. Usually we buy toilet paper in a pack of nine. I don't like the idea of running out and resorting to newspaper.

"Only after meeting my fiancé have I really started to give the environment and sustainability more thought. Before that, it was never a priority. She cares a great deal about the environment, which I admire a lot. So now I think about it a lot more when buying and using products such as tissue. Generally, we don't use too many paper products if we can avoid it.

"Coming from Denmark and now living in England, I've not seen a great deal of difference between what is available in the two country's supermarkets in terms of tissue products. Both are very developed countries and have easy access to all these types of products, either in supermarkets and also when I travel around the countries. When I visit other countries such as Uruguay and Mexico however, I really notice that the paper is much harder and a different colour, and often more difficult to get hold of."

"I live with my fiancé in East London and I think our household is fairly normal in our use of tissue products. We use toilet paper, kitchen roll, Kleenex products and serviettes. But that is all going to change in the near future as we are expecting our first child, so I suspect more tissue products that I never knew I needed will sneak their way onto our household shopping list."

PIX Pulp indices 26.1.2016

NBSK pulp Europe

When writing these notes, the only publicly available pulp data over December is by UTIPULP, providing the softwood pulp consumption and inventory numbers at consumers. BSKP consumption was down in December by -1.4%, year-on-year. Softwood kraft pulp inventories, at 19 days of consumption, were down by one day from November but up by one day against December 2014. At least two major producers have announced a price increase initiative to 810 dollars/tonne from the recently seen 790-795 dollar level.

The decline of our PIX NBSK index came to an end, at least temporarily, as the benchmark value headed this time back upwards by 1.36 dollars, or by 0.17%, and closed at 793.34 USD/tonne. The US dollar weakened against the Euro by 0.05% (weekly average of week 3-2016). With the very minor strengthening of the Euro against the US dollar, the benchmark value in euro, converted from the dollar value index with the average exchange rate of last week, moved up from last week by 92 cents, or by 0.13%, and the PIX NBSK index value in euro-terms ended up at 729.58 EUR/tonne.

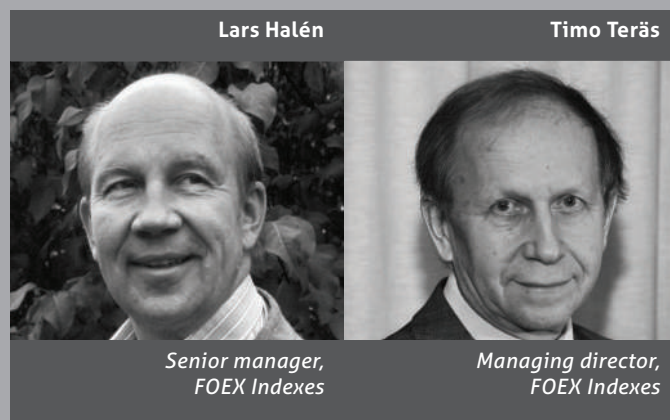
BHK pulp Europe

In BHKP, production problems continue to reduce some volumes, e.g. at Lontar in Indonesia and at Guaiba's older line in Brazil. While both planned and unplanned downtime has been seen, the supply push seems to have increased in Europe, at least in the form of larger spot volumes being offered in Southern Europe.

Since the peak in late October, our index value is down by 30 dollars/tonne, but by less than 10 euros. While buyers are pushing for a bigger decline, producers are determined not to see a further retreat. Just as the softwood index, our BHKP benchmark in Europe headed this time back up on January 26, as the index value inched up by 5 US cents per tonne, or by 0.01%, and closed at 778.93 USD/tonne. In week 3-2016, the value of Euro appreciated by 0.05% against the US dollar (weekly average). When converting the USD value of the BHKP benchmark into the marginally stronger Euro, the PIX BHKP index in Euro inched down by 29 cents, or by 0.04%, and closed at 716.32 EUR/tonne.

Paper industry

The additional data received over the paper and board industry activity in Europe in November confirmed the semi-positive performance already seen in graphic paper numbers also in the other grades. For instance the WE box shipments were up in November by 3.4%, year-on-year. This was better



Lars Halén

Timo Teräs

Senior manager,
FOEX IndexesManaging director,
FOEX Indexes

than the cumulative gain of 2.0% over the first 11 months. Also, the production of containerboard and other case making materials was up clearly more for the month, or by 4.2%, year-on-year while the cumulative gain was somewhat less at 2.7%, according to CEPI.

For total packaging, the monthly comparison showed a solid 3.4% increase, also here better than the cumulative gain at 2.2%.

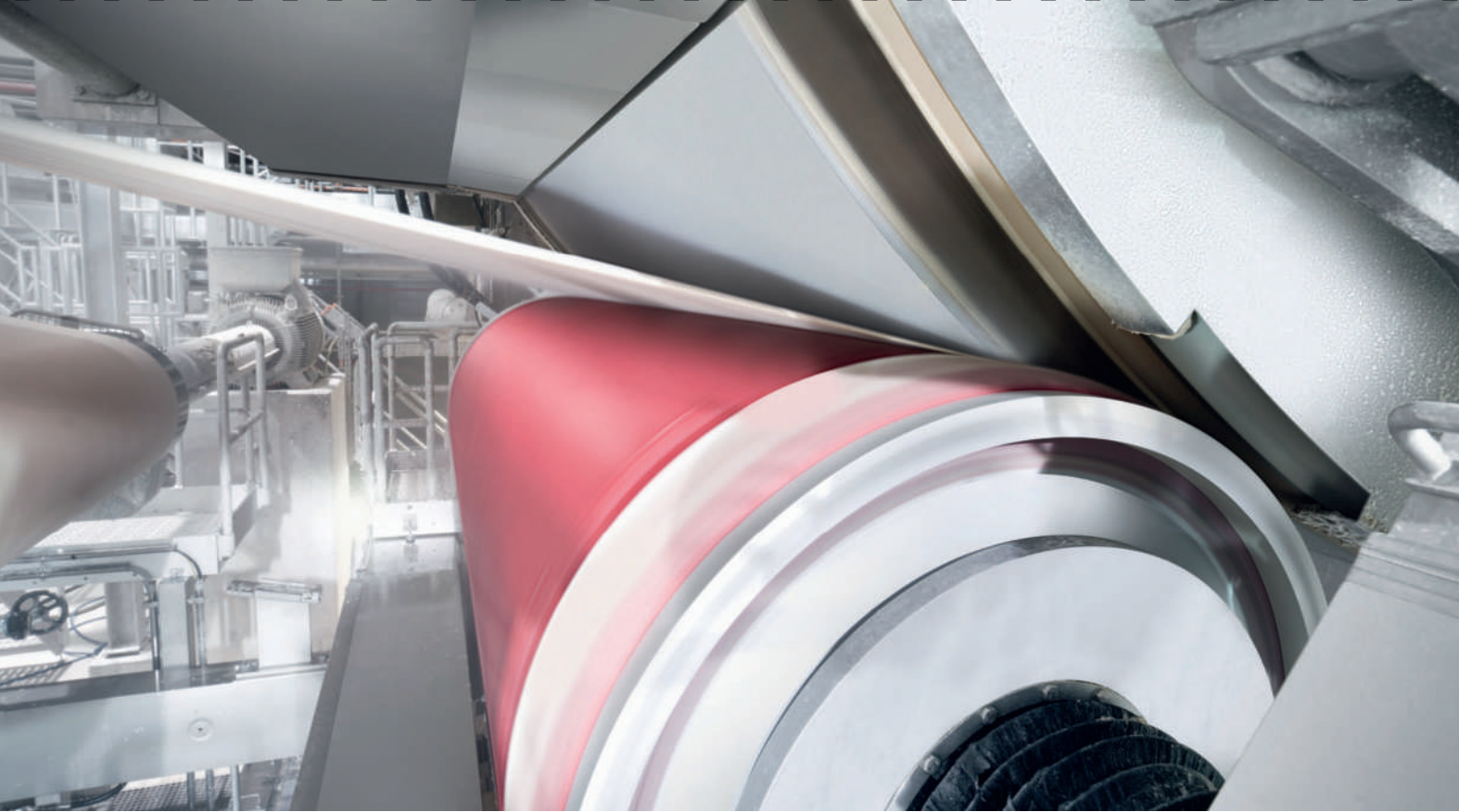
The month of November was good for tissue as well. The production of sanitary and household papers was up by 4.1% year-on-year and by 2.1% over the first 11 months. Graphic paper production fell modestly, or by -2.3% in November year-on-year.

For paper and paperboard total, production numbers were up by 1.0% for the month of November but down by -0.4%, cumulatively. Preliminary December numbers from PPPC came out positive with graphic paper demand, including newsprint, in Europe estimated up for the month by 1.2% from December 2014. Annual numbers still showed a clear -3.8% retreat with newsprint demand down by -8.1% and other printing and writing papers by -2.5%.

Paper price negotiations continue in Europe, as they do also for some grades in the US market. Our paper index values have rather come down than gone up in January. In the UK, as well as in the US, the strength of the currency has kept a heavy lid on the suppliers' price hike efforts. The falling prices of pulp and the moderate decline seen also in recovered paper prices, both in Europe and the US has also led to some price declines, mainly in the brown kraftliner and testliner grades.

PIX NBSK PULP USD/tonne, Europe

Date	Price (USD/tonne)
01/12/15	818.50
01/01/16	793.50



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Key innovations in the search for perfection on the converting line

We asked the world's leading converting machinery manufacturers to explain where their R&D efforts are leading them for TWM's annual Converting Technical Theme. Gambini, Futura, PCMC, Maflex and MTorres responded.

TWM/1 What events in 2015 have had the biggest impact on your business and why?

Carlo Berti, sales and marketing director of Gambini: "In 2015, our technological innovations have attracted the interest of major multinational companies that have chosen Gambini to improve their flexibility and increase production capacity. For us, it is a great award that repays the work of research and development and gives us confidence for the future."

Piero Ceccon, head of sales and ProCare, VP international operations at Futura: "For us it has been the launch during It's Tissue of the Andromeda Concept which has generated significant business for Futura. Looking at external influences, however, it is the vertical integration of a number of pulp producers that have chosen to bring tissue within their portfolio. The motivation for taking this step into converting is that tissue is certainly an attractive business within the paper sector, and the desire to add value is also a driving force. The common theme is that all these new players are looking for high performance and quality. They also want solutions which integrate this high performance across their business and which are ready for the opportunities presented by Industry 4.0."

Sergio Casella, president and chief executive of Paper Converting Machine Company Italia: "Last June, we opened our doors at It's Tissue and hosted hundreds of customers and showed our latest innovations. It was a big and fruitful occasion to create a direct relationship, not only with the sales team and customers, but also a meaningful experience for the entire PCMC team."

Joseph Gotshall, North American sales director – Tissue, MTorres: "We have been working on some new developments in the converting of structured tissue, and lightweight non-wovens that have had great impacts on productivity. Because of these developments we have been able to sign new clients in new markets. Many of those initial contacts came to us through referrals from people we have met over the years by attending Tissue World, which we always see as a pinnacle event for our success and our brand. So Tissue World has helped in us connecting with new market niches as well as allowing us to connect with a number of existing partners all in one place."

Martin Kyles, chief executive Maflex America: "We've been steadily gaining market share globally over the last several years, while maintaining our core customers with several of them having multiple Maflex machines. This has also been true in North American with both our small to mid-sized customers and large multinationals. In 2015 we saw a huge spike in customer confidence of Maflex as a reliable machinery and service provider. This was made evident by many of our existing customers making multiple purchases of both full converting lines and various converting components. This increased confidence also resulted in increased sales to new customers who witnessed our existing customer's success stories."



Clockwise from top left:
Carlo Berti, Piero Ceccon,
Sergio Casella, Joseph Gotshall
and Martin Kyles

TWM/2 Will 2016 and beyond see you targeting business in emerging markets in particular, or will focus mainly be on developed economies?

Berti: "Our offer is mainly addressed to mature markets where there's the need to renew technology through the introduction of new lines or retrofits able to deliver a quantum leap."

"However, our lines are designed to increase competitiveness and to gain market share in all contexts. Our focus at the moment is concentrated on North America and Latin America areas, where growth or reorganisation prospects can be identified."

"Gambini features some components that we have defined "efficiency boosters" because of their ability to increase productive efficiency through the introduction of automation in different points of the converting process."

Carlo Berti

Ceccon: "We are present with installations world-wide, from Oceania to North America, and we target businesses which are willing to innovate, no matter where they are located."

Casella: "We will continue to work with emerging markets but the priority is certainly the developed economies. We are well known there and receive appreciation from customers and a continuous flow of repeated orders."

Gotshall: "MTorres' business is global and we do have projects in emerging markets. However, since we focus on high end customised solutions for adding automation to web handling processes in the tissue industry, non-wovens, and the allied paper industry, we see a large portion of our revenue coming from well developed economies."

Kyles: "We are committed to growth in emerging markets. We feel our diverse product offering allows us to be competitive in these markets. Our simple, yet flexible designs are a perfect fit. We will also continue to focus on our growth in the developed economies."

TWM/3 What latest automation features are improving productive efficiency? Do you have any case study examples?

Berti: "Gambini features some components that we have defined "efficiency boosters" because of their ability to increase productive efficiency through the introduction of automation in different points of the converting process. The Embosser TouchMax is the highest point of the technological improvement that we offer in terms of efficiency, safety, production speed and quality of the finished product."

"However, we can also mention other examples: SmartCut is a quick and smart Coremaker; CleanSeal is a system for the optimisation of the tail sealing that saves glue and creates a perfect and clean seal; FourFast is a four-lane accurate and reliable log saw with a minimum trim."

Ceccon: "The Andromeda Concept, thanks to a new-to-the-market integrated parent reel handling system, can load, unload and splice with exceptional automation and safety, therefore delivering process continuity. To give one example, Andromeda Concept offers, for the first time in this industry, a technology which can position the jumbo roll (up to 3m diameter) on the unwind stand at the beginning of the converting line without manual intervention, including automatic chuck removal and insertion, and this offers considerable benefits in terms of safety and overall process efficiency."

"If the converting plant has an automated warehouse with laser guided vehicles (LGV) then the system will effectively be automated from the collection of the jumbo roll in its warehouse location to the winder and beyond, depending on the further processes specified, such as wrapping, handling and palletising. The Andromeda Concept is thus an indispensable part of the fully-automated mill, which is the ultimate solution for safety, productivity and efficiency."

"The Andromeda Concept, thanks to a new-to-the-market integrated parent reel handling system, can load, unload and splice with exceptional automation and safety, therefore delivering process continuity."

Piero Ceccon

Casella: "Flexibility is one of the key factors for efficiency and all our recent innovations follow this concept. Customised solutions enable quick changes in production parameter and product characteristics. Our innovative rewinder AMICA UNICA has been developed to consider the continuous market changes and is the only rewinder with the DoubleGeometryTechnology, which allows two different type of products to be processed perfectly (consumer and AfH), with no compromises (from 90mm to 350mm of roll diameter)."

"We have also focused our energy at the line upstream, finding solutions to adjust parent reel formats, unwinding units with automatic flying splicer and to increase the productivity and reduce downtime."

"Our attention is also on the packaging; in fact PCMC Packaging offers Advanced Simulation that identifies optimum line layout configuration for custom production needs. The simulation identifies potential bottlenecks up front to avoid surprises at startup. Our Advanced Line control techniques provide the means to automatically balance production rates across the pack loop based on the current state of each asset in the process. The system constantly evaluates the production process and makes necessary steps to insure consistent production (minimising process stops)."

Gotshall: "Our patented technologies on high speed splicing and tension control continue to provide efficiency increases"

ARE YOU READY TO SAVE MONEY?

"Flexibility is one of the key factors for efficiency and all our recent innovations follow this concept. Customised solutions enable quick changes in production parameter and product characteristics."

Sergio Casella

to existing converting lines and are always a vital part of any high speed structured tissue converting line. In recent case studies we have seen an overall factory performance increase in multiple production lines when an MTorres system has been added to just one line. Since the line can absorb all of the inconsistent product or parent reels with multiple factory splices in it, all of the perfect reels can go to the other lines. This therefore allows multiple lines to each improve even when our clients have only invested in upgrading one."

Kyles: "We have been designing increased finished product specification ranges with our push-button/tool-less change overs. This allows our customers to save time when making large scale changeovers. This also allows the operators to change the machines over quickly, without the need for maintenance and changeover crews."

TWM/4 What new ways are you ensuring that the quality of cut is consistent?

Berti: "Gambini Log Saw ensures an optimal cutting quality thanks to the "stationary" cutting system. Our commitment is directed to the implementation of new technologies that can improve further to maximise performance and flexibility in this critical step of the converting process."

Ceccon: "The key to Futura's patented cutting technology, UTILITY, is higher efficiency, supreme finished product quality along with reduced waste – it has been a game-changer for the industry. Thanks to the smaller trim width which the UTILITY system achieves, more tissue is left to make into product. In certain scenarios it is even possible to make one extra roll out of each log produced and the disruptive presence of trim downstream has been eliminated. Consistency is thus guaranteed."

Casella: "Keeping the blade sharp is the key to cut quality, and recently we have invested in improving our grit evacuation and grinder wash-up technologies, in both our at-home and AfH logsaws. Cut quality begins at the Log Saw upstream, especially with waste-reduction efforts through reduced trim ("cookies") length, a well-formed log all the way to the end is important to the consistency of cut quality up to the last cut in the log."

"We have also developed camera-based web edge guides which, when coupled with servo side-shift of the parent reel, provide the resolution to maintain good winding quality out to the end of the log."

"A further evolution of the well-known LSX, industrial Log Saw, is the recent smart re-designed industrial Log Saw with two channels, LSX². LSX² allows for the cut of industrial logs on two



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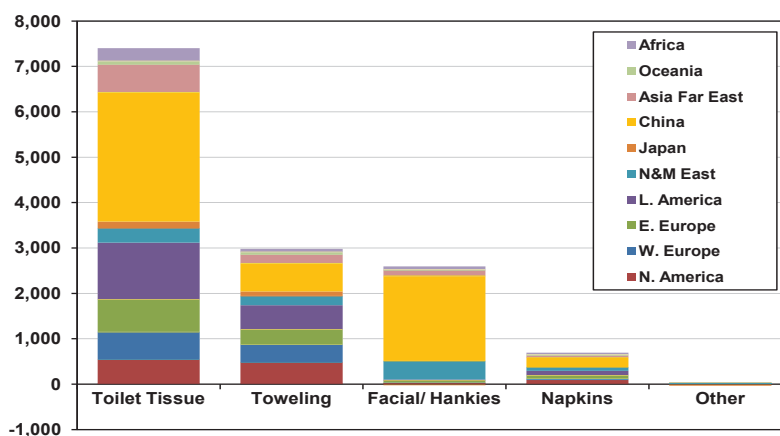
Outlook for World Tissue Business

The most comprehensive, unparalleled, compact data source and forecast for the global tissue market!

RISI's Outlook for World Tissue Business provides insight into recent changes and future growth prospects for the global tissue industry. The study provides details for each key region including key players, supply, demand and operating rates with forecasts up to 2023.

The global tissue industry has experienced strong growth since the global recession. Growth rates have returned to between 3.1-3.9%, after plummeting to 1.2% in 2009, and the global market continues to be in a strong expansion phase. China leads volume growth, followed by North America, Western Europe and Latin America. Over the forecast period, China is expected to continue to export tissue to other regions with a net export surplus growing from 820,000 tonnes annually in 2014 to about 960,000 tonnes by 2018.

Figure 2.7
Expected Volume Growth in Tissue Markets by Product and Region, 2013-2023
Thousand Tonnes



This study details:

- Driving forces for future demand – broken down by region
- When the tissue business will take – off in countries such as India
- Current and future growth rates and volumes by region
- How world tissue demand will develop – by region and by sector/product
- Global tissue consumption by product and by market segment
- Who the major suppliers and what their strategies are
- The new committed projects by region, and how these will affect operating rates
- The technology and retail trends that will shape the future

A TWM report

channels with a clamp changeover, to one channel, in less than five minutes."

Gotshall: "The best way to ensure that we have a good quality consistent cut is to handle the web tension properly allowing our knife edge to shear through the web without tearing. We use cutting during our splicing process in order to create a good clean cut of the terminating web, which we can then splice to a new parent reel. This allows us to keep the running web and keep the process uninterrupted. We use a festoon system and a servo driven dancer to absorb any system upsets and maintain a perfect web tension. Maintaining a consistent tension is key in creating a clean cut that can be used to create a butt splice or a small overlap splice without a tail."

Kyles: "Cut quality is an area where we have spent a large amount of time and energy in the past several years. The attributes we feel allow us to ensure a consistent cut quality are our precise control of the blade and orbit speeds and our ability to accurately detect and control the blade temperature."

"Our embosser TouchMax has five steel embossing rolls always on board and enables product changeover in three minutes, which is fully automated and safe with all adjustments carried out via HMI panel. The TouchMax.Large works paper widths up to 3,600mm and creates equal conditions of maximum efficiency during product changeover, as well as multiplying the production capacity depending on the high working speed."

"Additionally there is VariDeck, the first lamination group that allows the customer to vary the width of the laminable paper in few seconds without replacing cliché roll and/or sleeve."

Ceccon: "Our Infinity printer, JOI embosser and Sferica Rewinder have set industry benchmarks in terms of the time it takes to change sleeves and rolls to achieve different print designs and embossing patterns and roll specifications for finished product. This combination of technologies is ideally set up to achieve the best possible quality for conventional, structured and TAD tissue. But what is often overlooked is the time then required to set up the line in accordance with the new printed design, embossing pattern or roll specification - in other words, the "paper to paper" time. In this respect we have redrawn the boundaries thanks to global process control where the change in one parameter is automatically accounted for by all the other parameters affected. This makes the whole process much quicker and more accurate."

Casella: "Our attention is orientated towards the overall converting process, in order to also reduce other possible downtimes for adjustments along the whole line."

TWM/5

What features are you incorporating to minimise downtime between changes in print design, embossing design or roll format?

Berti: "We have always given great significance to reducing the machine downtimes during product changeover."

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"Starting from reel unwinding (e.g. system for automatic reel change, adjustments of the unwinder side frames to accommodate different reel formats), following the converting process, automatic on-the-fly adjustments of laminators, thanks to our Forte rewinding technology it is possible to maintain the embossing caliper retention from the first to the last sheet.

"PCMC Packaging has introduced closed-loop motorised adjustments to provide quick and repeatable change from format to format. Closed loop positioning insures that operators can quickly restore machine settings to proven recipe values. Changeovers are choreographed via operator interface screens that provide step by step instruction with operator verification."

Gotshall: "Our high speed splicing technology allows continued production without stopping for reel changes. We have developed technology that is being used in printing processes that allows us to execute a perfect butt splice to proceed through the line. The butt splice has no web overlap so print heads can remain engaged with no lost time and minimal waste even as the splice goes through the line."

Kyles: "We have designed both our entry level and higher level machinery with the capability to change all embossing, laminating, and print rolls quickly. Our rolls are designed to facilitate the quick change over as well. We have incorporated roll storage into the line layouts for customers who have limited space or ability to easily move the rolls into the converting line area. Our machines also have recipe based change overs which allow the finish product attributes (sheet count, perforation length, log diameter and core diameter) to be changed with a push of a button."

TWM/6 Identify one or two areas of technology in which your converting systems really stand out.

Berti: "Our converting lines represent concretely the concept of "Perflexion", the philosophy that inspires our R&D towards the achievement of real benefits in terms of performance, intended as a combination of production speed and quality of the finished product, and flexibility throughout the process. The aim of Gambini is to introduce technological innovations that improve efficiency, enhance safety, simplify operators' work and, last but not least, optimize the final result."

Ceccon: "Global process control is at the root of our Andromeda Concept and the integrated performance it promotes enables Futura's technologies to stand out. It allows the line to benefit fully from sector-leading automation which goes hand-in-hand with safety. It also promotes optimum overall equipment effectiveness (OEE) and for the first time creates a converting line which is effectively one entity rather than a series of components.

"Two examples of technology which exemplify the stand-out nature of the Andromeda Concept are Sferica and Duplex.

"The Sferica Rewinder provides outstanding performance with the smoothest operation and consistent, unbeatable winding quality for conventional and structured paper. Maximum uptime and bulk preservation are key achievements of Sferica, while its

patented Wind & Seal technology makes the external tail sealer redundant as the logs leave the rewinder perfectly sealed with minimum glue application thanks to new technology that doses from above, which is an extremely effective way to tackle glue dust contamination.

"Duplex is Futura's double-head, high performance coremaker. It is this, combined with the new core accumulator, which are the essential components of the Andromeda Concept's space-saving layout - a revolutionary feature. Thanks largely to the integration of the core-making and accumulating aspects of the line, these do not take up the space next to the line which standard arrangements require. This allows two lines to fit within a width of 25m - which is significantly less than would normally be the case - up to 43m would be quite typical. The smaller building footprint trims down the capital expenditure aspect of a project and simplified logistics and handling yield manpower savings.

"It is an essential aspect that the whole line is supported throughout its life by ProCare tools which provide for the effective startup, global control and maintenance of the line."

Casella: "Our Forte rewinder is the actual flag of PCMC technology in terms of flexibility, safety, product quality and productivity.

"PCMC has also been honoured with the 2015 Manufacturing Safety Excellence Award by Rockwell Automation. This award recognises our dedication to providing the marketplace with safe equipment as well as the safety education and discussions about it with customers in order to increase their awareness and level of safety within their organisations. Among the nine organisations that received this award in the last three years, we are only the second OEM to be recognised. Looking at the other recipients such as GM, Pepsi Co, Procter & Gamble, Clorox, Goodyear, and Kimberly-Clark, we feel honoured to receive this prestigious award."

"One stand-out area our customer's benefit from is flexibility. By making our lines flexible, our customers can produce a wide variety of products on the same line when needed."

Martin Kyles

Gotshall: "Tension control is our key factor of differentiation. We take web handling as our greatest task and can provide a consistency (even with highly variable material) that allows our clients to take advantage of more consistent production without stopping or slowing. High-speed splicing allows us to provide consistency even when we are moving from one reel to another."

Kyles: "One stand-out area our customer's benefit from is flexibility. By making our lines flexible, our customers can produce a wide variety of products on the same line when needed. The other area where we feel we stand out is our simple design strategy which results in ease of operation, lower maintenance and higher reliability. Both of these value added attributes directly impact our customer's bottom line."

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Getting Mr Robot – flexible, quick and tireless – to take on the heavy work downstream

After an explosion in choices of packaging and sizes – 15 different bath tissue packs for example – factories are stepping up automation to keep increased production runs as smooth as possible. Luc Vanden-Abeele, Axiom Robotics and Automation's marketing research advisor reports.



A recent tissue project undertaken by Axiom Robotics and Automation

Those who design factory production lines use the terms “upstream” and “downstream” when referring to the two ends of the tissue manufacturing process. Perhaps sitting inside their factory offices the engineers harbour dreams of putting up Gone Fishing signs. Or they simply know that if upstream goods are moving through a quick current, everything heading downstream better be dealt with or they just might find a messy logjam on the factory floor.

For companies that make tissue products, upstream is where all the pulping, bleaching, rolling and cutting take place. While downstream is where products are put into primary packaging, then secondary packaging, with cases then stacked onto pallets and pallets then lifted onto transport.

The upstream area of a tissue plant sees

lightning speeds within an automated process that has been tweaked, improved and made even faster over the years. Not so, at the downstream end, which requires numerous people to not only keep up with the pace set by the machines but also to adapt to the ever-changing requirements of the retailer.

Think single pocket tissues, rounded tissue boxes, megapacks of 48 toilet paper rolls and all the other sizes of packaging we see today. Niche marketing and big-box stores have fuelled this explosion of choice, and factories have been trying to adapt to the higher number of production runs that have resulted. As an example, there are now over 15 different choices of bath tissue pack sizes.

Robots have come to the rescue. Their flexibility, speed and tirelessness have

Luc Vanden-Abeele



*marketing research advisor,
Axiom Robotics and Automation*

successfully taken on the wide varieties of packaging at the downstream end, where different sized boxes come down the line and different stacking formations are needed. Robots pick up items with a variety of grippers that

in seconds can be programmed to be changed and grab a different size box. They can also be programmed to stack boxes in various ways, even making sure that in those large wrapped pallets of tissue the decorative side of the box is seen and not the less pleasing bottom-of-the-box product details.

The tissue sector has seen higher profits than other areas of the paper industry, but that does not negate production engineers looking for efficiency. In one of Axiom Robotics and Automation's recent tissue factory designs, five robots were able to expedite 150 products per minute 24 hours a day, automatically changing over to accommodate for product sizes, case sizes and, different loading orientations throughout the day.

A recent trend calls for mixed product case packing. Without the flexibility of robotics, putting various packaging formats in a corrugated box in an efficient way might be close to impossible.

Distribution centres are where downstream processes have gained momentum and where automation has been key. Robotics companies like

Axiom Robotics and Automation are now automating the way orders get filled and the way products enter and exit the centres.

The rise in SKUs has pushed the centres to become more flexible. With more package sizes and more varied store needs, automation has been key to respond to these changes. Robotics are well placed to do the mixed load palletising, which brings various box formats together on one pallet, as well as mixing together secondary packaging.

All that distribution centre activity has resulted in bigger operations, more expenditure and more employee hires.

According to a recent survey about warehouse and DC operations, 2015 saw a 13.5% increase from 2014 in the average square footage. It is the same situation with the labour, where it has gone up steadily as well, with a 20 percent increase from 2012 to 2015. But the astounding figure is the average number of SKUs found in the facilities, which went up by 18.5% in 2015 alone. More SKUs, and the increasing demand for less than full pallets, mean larger

warehouses and more people to handle them, with more logistical needs and more complex processes ... if nothing new is done to deal with those changes.

This is where robotics can pull warehouse and DC managers out of this Catch-22. The ability of industrial robots to build mixed case pallets while optimising product density, as an example, provides a unique alternative to meet the increasing demand of mass customisation. These technologies have been improving to keep up with the complexities being demanded by the tissue sector and other industries seeing their distribution needs becoming ever more detailed.

Investing in robotics can be expensive. But those technologies enable processors to deal efficiently with the flexibility needed to cope with SKUs proliferation. Therefore, the ROI is there. Many large players are increasingly looking to robots to make their downstream packaging and palletising flow just as quickly as those fast moving upstream operations. And when that starts to spread even further through the sector then maybe those engineers can get some time off to go fishing.



OCME: The latest generation in handling

By Marcello Lusardi, OCME regional sales manager

such demands from consumer markets, it has responded to needs by creating robotic technology that is of high quality and easy to use. Flexibility and speed are key; OCME has shaped the technical revolution by making modular systems with high performances, such as the last generation of the anthropomorphic Robots (Fanuc) coupled with several servomotor. Elsewhere, the user-friendly SW saves space, simplifies maintenance operations and increases the possibility to develop and adapt systems towards future market needs, such as zero change over time.

The company recently introduced the 'Remote Access' and the 'Plug&Play' philosophy on electronic areas in order to simplify the Automatic System and the Maintenance Operator. For the tissue market, OCME launched a fully automatic system to palletise carton boxes, sacks, bundles and displays of folded product, industrial, toilet and

kitchen rolls. Fully automatic systems convey and handle pallets of finished product on traditional Pal Conveyors, rail shuttles rail or advanced laser guided AGV Systems.

The complete Handling System is managed by a dedicated SW that synchronises all equipment to manage the Data Tracking System and the Warehouse System.

The company has a strong focus on safety and on environmental impact; in 2013 OCME was awarded the IMHX Safety Design Award. Systems are also designed to save energy due to the low consumption components. All devices have an advanced system like the Kinetic Energy Recovery System (KERS) on AGV vehicles coming from the F1 technology.

OCME is ready to accept all new market challenges with high quality, technical innovation.

Since it was established in 1954, OCME has prioritised research and development for palletisation and the handling of products in warehouses. Fast changing market demands are forever evolving and the demands set by the international tissue market is a key example.

The company can meet all end-of-line and automatic conveying system requirements. Following



"There is hope on the horizon... and the reforms process which had been stalled for the last few years will finally get a new thrust. Under dynamic leadership we are now poised for a leap forward."

Sumit Khanna, chief executive of Beeta Tissues

India prepares for an expected surge in tissue demand

Regional growth rates can already reach 20-25%, and as the new one-party government clears away restrictions on manufacturing and international players enter the market Sumit Khanna, chief executive of Beeta Tissues, New Delhi, assesses possible developments ahead.

After years of coalition politics, the parliamentary elections in 2014 gave a decisive mandate to a single party. There was now hope on the horizon as the compulsions of a coalition government would take a backseat and the reforms process which had been stalled for the last few years would finally get a new thrust. Under the dynamic leadership of Narendra Modi, India is now poised for a leap forward.

hopefully see the light of the day in 2017. The complexity of double taxation at the state and centre would be eliminated and growth is expected in the organised sector of manufacturing.

The consumption trend of tissue paper products in the metro cities is very different from the smaller cities and towns in India. Rural India mainly consumes MG poster (also called hard paper) in its

increasing the installed capacity to approximately 200,000 tonnes. The tissue paper industry in India is growing at an average of 20-25% annually depending on the region. At present consumption in the tissue paper industry is estimated at around 1.25 lakh (a lakh – a unit in the Indian numbering system equal to one hundred thousand tonnes per year). Mainly recycled tissue paper is being produced by these new emerging paper mills, starting from 16gsm to 35gsm.

Studies have estimated that every job created in manufacturing has a multiplier effect, creating two to three jobs in the services sector. In a country like India, where employment generation is one of the key policy issues, this makes this sector a critical one.

The new government has come up with many projects to give the much needed impetus to the manufacturing sector. Indian manufacturing currently contributes 15-16% to GDP (2015) and gives employment to 12% (2014) of the country's workforce.

Studies have estimated that every job created in manufacturing has a multiplier effect, creating two to three jobs in the services sector. In a country like India, where employment generation is one of the key policy issues, this makes this sector a critical one to achieve inclusiveness in growth.

India contributes 2.2% of the global manufacturing output which is on a par with developed economies of the world such as the UK and France. The government plans to increase the share of manufacturing in the country's GDP to approximately 25% by 2022. This would create 100 million additional jobs in this sector alone. The government has focused on 25 different industries, tourism and hospitality being one of them. Taking the above into consideration India is bound to see a growth in its tissue requirement exponentially.

A uniform Goods and Services Tax which is now in its legislative stages would

paper napkins. Though this quality of paper is not at all absorbent to water, it is still extensively used here because of the cost factor. Tissues in India on the whole are still considered more a luxury item than a commodity. As a category the sales of paper napkins is maximum, and facial boxes the least.

There is clearly a tough fight ahead for local tissue converters with the internationals. This is not to say that they will die; they won't, at least not the big ones. But they are clearly under attack.

With the country inviting Foreign Direct Investment and a conducive environment which is getting generated for business activities, there is a sharp increase in the number of offices. Consequently, consumption of hand towels in the AfH sector has also risen. Kimberly-Clark has introduced this category of tissues here and obviously has the first-mover advantage. Though organised retail still constitutes a very small portion of the retail sector, it is on the increase. Retail outlets are promoting their private brands and this is another growth sector for the industry.

A little less than a dozen new paper mills have emerged in the last three years,

Amongst the new paper mills, Arjun pulp and paper mill is the only one to get into virgin grade paper with an installed capacity of 70tpd in south India (Tamil nadu). They are currently making napkin, toilet and towel grade paper. Nitin Jain, chief marketing manager of Arjun pulp and paper, says: "With organised players like Asia Pulp & Paper and SCA entering the Indian tissue market and investing big in the retail segment with advertisement of their products, the market shall definitely improve."

Tissue paper converters are also shifting to semi-automatic and fully automatic

packaging machines to meet the envisaged surge in demand. The penetration of international brands like Paseo, Tempo, etc, has forced Indian converters to revamp their packaging.

There is clearly a tough fight ahead for local tissue converters with the internationals. This is not to say that they will die; they won't, at least not the big ones. But they are clearly under attack. The challenge has been laid down.

Sumit Khanna is the chief executive of Beeta Tissues based in New Delhi, India.

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FOR TISSUE !



Auriga

LGV vehicles

Integrated technology for warehouse logistic automation

- Speeds up to 1700 mm/sec
- Total security (Laser Safety Sensor 360 °, Safety PLC, etc.)

- Low Power consumption (Kers)
- High position accuracy (+/- 5 mm)



Orion

In-line palletiser

for bundles, multipacks, cartons, etc

- Low or high level infeed (with fixed or mobile pallet)
- Single or double infeed

- Layer forming through Mizar
- Max speed: up to 10 layers/minute



Pegasus

Robot palletiser

for bundles, multipacks, cartons, etc

- Max speed: up to 7 layers/minute (with layer picking version)

- New gripping head (servo motor controlled)
- Gripping head for interlayers and pallets



Perseus

Traditional palletiser with 90° infeed

for bundles, multipacks, cartons, etc

- Low or high level infeed (with fixed or mobile pallet)
- Single or double infeed

- Layer forming through Mizar
- Max speed: up to 8 layers/minute
- Energy saving (up to 30%)



www.ocme.com

Events Calendar

Event	Date	Location	Website
Tissue World New Orleans	March 14 - 17, 2016	New Orleans, USA	www.tissueworld.com/NewOrleans
CIDPEX 2016	April 11 - 13, 2016	Nanjing, China	www.cnhpia.org/en/conference.htm
Label Summit Latin America	April 26 - 27, 2016	Cartagena, Colombia	www.labelsummit.com/colombia
ISSA/INTERCLEAN Amsterdam	May 10 - 13, 2016	Amsterdam, Netherlands	www.issainterclean.com/
PaperCon 2016	May 15-18, 2016	Ohio, USA	www.papercon.org
Asian Paper 2016 Bangkok	June 1 - 3, 2016	Bangkok, Thailand	www.asianpapershow.com/
ZELLCHEMING-Expo 2016	June 28 - 30, 2016	Frankfurt, Germany	http://www.mesago.de/en/ZEX/
ISSA/INTERCLEAN Istanbul	September 7 - 9, 2016	Istanbul, Turkey	www.tissueworld.com/Istanbul
Labelexpo Americas	September 13 - 15, 2016	Chicago, USA	www.labelexpo-americas.com
Tissue World Istanbul	September 27 - 29, 2016	Istanbul, Turkey	www.tissueworld.com/Istanbul
Labelexpo India	November 17 - 20, 2016	Delhi NCR, India	www.labelexpo-india.com
Tissue World Shanghai	December 7 - 9, 2016	Shanghai, China	www.tissueworld.com/Shanghai
ISSA/INTERCLEAN Latin America	February 22 - 24, 2017	Mexico City, Mexico	www.issainterclean.com
Tissue World Milan	March 28 - 30, 2017	Milan, Italy	www.tissueworld.com/Milan
ISSA/INTERCLEAN CEE	April 26 - 28, 2017	Warsaw, Poland	www.issainterclean.com
Asian Paper 2017 Jakarta	May 17 - 19, 2017	Jakarta, Indonesia	www.asianpapershow.com
Tissue World São Paulo	May 31 - June 2, 2017	São Paulo, Brazil	www.tissueworld.com/SaoPaulo



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What is your company's primary field of business (tick all that apply):

A. INTEGRATED TISSUE PRODUCTS MAKER

Primary business making paper and producing:

- ☐ Consumer (At Home) Finished products
☐ Away-from-Home (AFH) Finished products
☐ Other Tissue Grades, please specify:

B. JUMBO ROLL SUPPLIER

- ☐ Jumbo Roll Maker, for sale to converters

E. SUPPLIER TO THE TISSUE INDUSTRY Please check all that apply:

- ☐ Paper making machinery
☐ Fabrics, felts, clothing
☐ Drying technologies
☐ Process automation and control
☐ Water treatment, environmental and effluent control
☐ Dust control and air treatment systems
☐ Doctors and creping blades

☐ Deinking
☐ Stock preparation, fiber processing and pulping equipment
☐ Fibers: Market pulp and recycled fiber
☐ Chemicals and chemical technologies

☐ Converting machinery and supplies
☐ Printing machinery and supplies
☐ Inks, glues and dyes
☐ Embossing rolls

C. TISSUE CONVERTER

Primary business is converting jumbos and producing:

- ☐ Consumer Finished products
☐ Away from Home (AFH) Finished products
☐ Other Tissue Grades, please specify:

D. RETAILING AND DISTRIBUTION

- ☐ Retailer
☐ Broker
☐ Distributor

☐ Knives and blades
☐ Folders/interfolders
☐ Cores and coreboard
☐ Wrapping/Packaging equipment and supplies
☐ Transport and logistics

☐ Energy and Power

☐ Testing machines
☐ Engineering
☐ Consulting services. Please specify field:
☐ Dispensers and dispenser systems
☐ Insurance and financial services
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Istanbul, Turkey



Trade Show & Conference:
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Shanghai, China



Trade Show & Conference:
31 May - 2 June 2017
Transamerica Expo Center (Hall E)
São Paulo, Brazil

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