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The next act for nonwovens

What drives the nonwovens sector? Consumer goods that enhance health and improve lifestyles. Products such as diapers, wipes, and hospital goods have been the main pillars of the industry. In addition, nonwovens are used in semi-durable and durable goods, such as products for construction, infrastructure, and automobiles, to name a few.

The single-use nonwovens sector is volume oriented and therefore depends on its consumer base. Population growth and the economy of nations are the drivers here. The industry has performed well because of these drivers and is predicted to have an optimistic future.

Historically, the nonwovens industry's annual growth rates have surpassed the GDP growth of nations in their respective regions. According to Brad Kalil, director of Market Research and Statistics at Cary, NC-based INDA, the Association of the Nonwoven Fabrics Industry, global growth is forecast to be about 5.7%. This figure is based on INDA and EDANA World-wide Outlook for the Nonwovens Industry. Asia will lead the global growth, with China and India projected to have annual growth rates of about 7% and 8%, respectively.

Growth numbers are encouraging in regions where growth is happening from a small base, and consumer acceptance and consumer goods are the key drivers there. In well-established and mature markets like North America and Europe, finding new markets for nonwovens by developing products that have functional and high-performance properties and varied applications will be the driver. Therefore, having strategies that focus on regional expectations throughout the world, as well as on consumer trends in terms of products and cost, will benefit our industry.

Double-digit growth in India

In developing markets like India and the Middle East, demographics, population numbers, and economic scenarios will influence nonwovens growth. For example, India's technical textiles sector, with which the nonwovens industry is grouped, will have double-digit growth, as I predicted in this report, "[India Rising: Opportunities in Nonwovens and Technical Textiles](#)." Major global organizations in the field of tech-

nical textiles now accept that the growth in India will be in double digits due to a rising middle class population and government policy, such as the National Mission on Technical Textiles.

So far, the growth in India has been pushed by investments in spunbond and spunlace technologies with a few European lines and a number of spunbond lines from China, predominantly feeding to the packaging sector. However, future growth will be fueled by developing the "converting sector," which consumes the roll goods to develop products that are available for consumer consumption at retail outlets.

The cost factor in developing countries

An important aspect for our industry to consider, if they choose to penetrate into developing markets, is the cost factor. Converted nonwoven products that can be absorbed by lower- and upper-middle class populations in growing regions of the world will provide opportunities for our industry. Demographics, rising income levels, and growing awareness about health needs and hygiene will support the industry, which necessitates the need to work with governments and non-government organizations (NGOs) to promote the usefulness of nonwoven products.

Outside parties recognize potential in nonwovens

Interestingly, technocrats from other disciplines are turning their attention to nonwovens and technical textiles. Venkatakrisnan Ramanujan is a Chennai, India-based IT specialist who founded WELLGRO Tech to develop products for the nonwovens sector. According to him, "with the current economic scenarios and political situations affecting the growth of IT sector in those markets where there are layoffs, I was looking to start a new venture and consulted with industrial advisors as to where I should stand-up uniquely among industries with affordable investments, and they advised to choose nonwovens. I considered nonwovens after a self-study, which led me to go into developing fibers and products for the nonwovens industry."

Considerations for developed economies

Turning attention to the diversification of the nonwovens sec-

tor in developed economies, the industry has to focus its effort to move the industry into becoming an engineered fabrics sector. New products for applications in performance apparel, automotive, energy and defense sectors have to be considered and developed. Borrowing ideas and technologies from allied and science disciplines like bioengineering, nanotechnology, and advanced manufacturing will help. For example, plasma surface processing can bring some functional properties to nonwovens. According to Rory Wolf, business unit manager at ITW Pillar Technologies, "atmospheric pressure plasma, surface cleaning, etching, deposition, cross-linking, surface roughening, and grafting are possible using non-polymerizable gases or gas mixtures to introduce additional value-added surface properties to nonwovens."

The next phase of the nonwovens sector should have different strategies based on location and consumer expectations. Certainly, investments in research and development that can lead to both incremental and disruptive technologies

and products are needed. Industry-institute cooperation is the need of the hour, which is a cost-effective way to advance the field. **TJ**

Seshadri Ramkumar is a professor in the Nonwovens & Advanced Materials Laboratory at Texas Tech University in Lubbock, TX, as well as Chair of the TAPPI NET Division. You may contact Dr. Ramkumar for the full version of his report, "India Rising: Opportunities in Nonwovens and Technical Textiles." Email him at s.ramkumar@ttu.edu.

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