# insight 2007 Abstracts -- Monday, October 22

## Products of Convenience: An Evolution of Consumption in Latin America for Infant, Adult, and Feminine Care

*Jim Robinson, Business Development Director*
*Mondi Packaging Akrosil, LLC*

How does Latin America stack up against the rest of the world in consumption of disposable hygiene products? Examining the early 20th century to the present, this paper will offer a glimpse into the change in buying practices of the Latin American consumer, specifically driven by marketing, changes in disposable income and GDP, globalization, and technology. Feminine care products comprise the focus of this presentation.

## Natural Plastics: Renewable Plastics for a Sustainable Future

*Holly Wilson-Jene, Director of Product Marketing*
*Telles*

Mirel™ is a new family of high performance polymers that are biobased, sustainable and totally biodegradable in a wide range of environments. Natural plastics are suitable for many applications now served by synthetic plastics including fibers, molded goods, extruded products, adhesives, coatings, films and nonwovens. Mirel can be part of an integrated solution for disposable hygiene products, delivering effective performance and a clear advantage in a marketplace that is finely tuned with environment and health issues. In 2006, Metabolix formed Telles™, a 50/50 joint venture with Archer Daniels Midland Company (ADM), to commercialize Mirel natural plastics. This presentation offers technical information on the environmental benefits of Mirel natural plastics.

## Frontiers and Progress in Direct Process Nonwovens – One Man's View

*Anders Moller, President*
*Anders Moller & Associates*

Some thoughts about what might happen when legislation is introduced, disallowing the use of non-biodegradable polymers for hygiene products. The world is full of meltspin capacity which so far is non-compatible with PLA and other biodegradable polymers. The question is not if, but when, such legislation will arrive and what will the industry then do?

## Celaire™ -- A Novel Way to Make Nonwovens from Filament Tow

*René Neron, Manufacturing Excellence Black Belt*
*Celanese Acetate, LLC*

Celaire is a new manufacturing process for producing nonwovens from synthetic tows, particularly cellulose acetate tow. The patented Celaire process is unique in its very low utility, labor, and space requirements, with no air emissions or effluents during manufacturing. Basis weights ranging from 20 to 750 GSM have been demonstrated, with nearly independent control of basis weight, product density, width, and thickness, on a line displacing less than 100 $ft^2$. Additional ingredients, including SAP, antimicrobials, and surface treatments, can be readily incorporated during the manufacturing process, allowing manufacturing customized nonwoven products with small batch sizes. While the Celaire process was developed using cellulose acetate, a sustainable, biodegradable, and thermally bondable cellulosic fiber, the process is applicable to other synthetic tows as a new process for manufacturing nonwovens.

## Bio-refinery Products – Opportunities when Oil is $60.00 per barrel, or $70, or & $80...

*Bob Makolin, Principal*
*Abba Makolin Waldron & Associates, LLC*

The primary conventional raw material source for nonwovens fabrics is oil. From 1994 to 1999, the cost of oil averaged less than $20/bbl. Today, that same barrel costs $75. With the growing demand for oil in today's global economy, 2008 may see $100/bbl. As the price of oil increases, alternative raw material sources should be considered. This presentation defines "biorefinery," identifies "hot spots" of biorefinery activity, and discusses current and future biorefinery products and the technology needed to produce them.

## Elastic Spunmelt Nonwovens for Medical Applications

*Greg Ward, President*
*Phoenix Group USA, Inc.*

This paper explores the exciting ways elastic spunmelt nonwovens are being used in medical applications. Elastic spunmelt nonwovens provide a non-latex substitute for medical and similar applications. This overview will bring you up to date on: 1. How roll goods products are being produced by Golden Phoenix Fiberwebs in Taipei, Taiwan. 2. How virtually any elastic application can be engineered and produced with these nonwoven products.

## Airlaid, Synthetic and Filament Based Diaper Cores – Pros, Cons, Economics and Possibilities

*Don Young, Director Commercial Development*
*Marketing Technology Service, Inc.*

There are many ways to make successful diapers and to design a diaper absorbent core, attachment systems, and the design features or economics necessary to satisfy the demands of various world markets. High SAP, low SAP, filament core, airlaid core and many variations of thin diaper designs made online with advanced diaper machines are of interest to designers, especially from the viewpoint of manufacturing economics and overall system efficiencies. This paper provides comparative data on several approaches and comparative manufacturing cost models. Comments on pros and cons are also provided.

# insight 2007 Abstracts -- Tuesday, October 23

## Developing Tomorrow's Ecological Nonwovens and Wetwipes

*Henri Laitervo, Director of New Business Development and Marketing*
*Suominen Nonwovens Ltd.*

This paper presents an outline of consumer demand for ecological nonwovens, exploring the benefits, ecological requirements and the challenge to new product development, future possibilities in ecological nonwovens and wet wipes.

## Olefin Block Copolymers for Health & Hygiene Applications

*Andy Chang, Senior Research Specialist*
*Dow Chemical Company*

Recent advances in catalyst technology and manufacturing process capabilities have enabled the development of INFUSE™ Olefin Block Copolymers (OBCs). OBCs exhibit improved high temperature performance and low temperature flexibility which are attributed to a novel multi-block chain structure comprising higher melting "hard" blocks and more flexible "soft" blocks, respectively. Properties relevant to health and hygiene applications described in this paper include tensile behavior, elastic performance, and stress-relaxation behavior. Comparisons are made with random copolymers and styrenic block copolymers.

## NASA Technology for Nonwoven Products: Outlast Phase Changing Materials in Rayon Webs

*Stefan Sulzmaier, Business Manager*
*Kelheim Fibres GmbH*

Product diversification and innovation have become the main drivers in the nonwoven industry. Kelheim Fibres, as producers of speciality rayon, have answered the call from the industry by introducing new and innovative rayon fibres on a regular basis. The most recent introduction as substrate for nonwoven materials is Danufil Outlast. This fibre is the world's first rayon fibre to contain the ground-breaking Outlast phase changing technology, developed originally for NASA. This technology enables a temperature regulating effect through the action of microcapsules incorporated within the fibre structure. The presentation explains the technology, the chances and challenges for the value chain.

## Ya Gotta Wanna – Process Control and Rewards

*Andrew Urban III, President*
*Urban Consulting Inc.*

My experience over 40 years is that everyone looks for the magic button that will make things work. Process control is no different. People seem to believe there is an algorithm or computer program which will allow one to have all the joys of process control. My experience is that process control is not difficult, it is definitely not "brain surgery," but to make it work, one needs dedication; that is, "YA GOTTA WANNA" make it work.

## Laser Cutting Technology at Last in the World of Nonwovens

*Alessandro D'Andrea, Marketing Manager*
*Fameccanica.Data S.p.A.*

This paper will introduce how the appealing laser technology that is presently used in several industrial sectors, has now come to the world of nonwovens. While in the past laser cutters have been mostly used to cut flat-sheet materials or piping materials, or for casting and metallurgic machining in a substantially "static" mode, this technology is now entering a new era. Laser cutting technology is now a "ready-to-go" solution for the cutting and shaping of disposable articles (such as lady sanitary napkins, panty shields, baby diapers and training pants, adult diapers and adult pull-up pants) where the processing speed of materials is an intrinsic requirement for product manufacturing. The progression from "static" to "dynamic and fast moving" laser cutting applications will be explored and supported with examples and tangible results on commercially available raw materials that have different layering structures, thickness and densities. Also, key advantages for hygienic disposable product manufacturers will be presented and analyzed to identify the circumstances where laser cutting technology becomes a convenient solution for modern manufacturing operations.

## World and Regional Spunbonded Nonwoven Capacities and Manufacturing Economics

*David J. Price, Senior Consultant*
*John R. Starr, Inc.*

This presentation gives an overview of key findings from the firm's recently completed study, "Spunbonded Polypropylene World Capacities and Manufacturing Economics." This study provides global and regional analysis of spunbonded and spunmelt producer capacities and expansions, supply and demand balances and insight into the manufacturing economics of nonwovens made from these technologies.

# insight 2007 Abstracts -- Wednesday, October 24

## Innovations in Airlaid Nonwoven Products – A Market Perspective

*Paul Whitaker, Executive Vice President and COO*
*Carolina Nonwovens Corporation*

An overview of how airlaid thermal bonded nonwovens are rapidly evolving by using natural and reclaimed fibers to engineer a new and broader range of applications and markets, including automotive, industrial, domestic and the construction industry.

## Silicone Based Materials for Surface Modification of Polymeric Fibers and Nonwovens

*Mabrouk Ouederni, Technical Applications Manager*
*Wacker Chemical Corporation*

Silicone chemistry is especially interesting in what it can accomplish when used even in very small amounts. The versatility of tailored formulations for specific end use goals and what can be accomplished on various substrates is the subject of this presentation. Current and future technical details of interesting applications and selection criteria for specific performance properties will also be covered, including the newest developments.

## Advanced Fiber Extrusion Technology for Producing High Value Nonwovens

*Arnold Wilkie, President*
*Hills Inc.*

New and improved methods of extrusion now make exquisitely complex fibers practical and cost-effective for nonwovens manufacture; sub-micron nanofibers, unique multicomponent polymer combinations, and taggant fibers enable new product designs. The exploitation of this technology is still in its infancy

## Spinlace™: PGI's Technology Platform for Sustainable Growth & Innovation

*Bob Dale, VP Sales/Marketing*
*Polymer Group, Inc.*

Spinlace® technology is the merging of fiber formation systems and APEX® bonding techniques. This merger of technologies will produce the attributes of spunlace that the market is looking for while moving the cost structure towards spunmelt. The combination of these technologies will significantly increase the degree of freedom to design specific attributes into a wide variety of applications.

## Growth, Trends, Opportunities in the Global Wipes Market

*Virginia Lee, Senior Research Analyst*
*Euromonitor International*

This presentation will address nonwovens in terms of: lifestyle changes and consumer impact; global overview with regional and sector analysis; key trends and drivers, major opportunities and challenges; new product development—where next with innovation?; the green trend—opportunities and limitations; and future potential and scope for growth.

## Superabsorbents by Nature: An Effective and Sustainable Approach

*Nicolas Nourry, R & D Manager*
*Archer Daniels Midland Company*

The bio-based revolution sweeping the marketplace is reshaping the hygiene industry. Environmentally friendly products that rely on sustainable practices are taking a growing share of every market. The hygiene market is no exception. Manufacturers of baby diapers and other disposable absorbent products must take a sustainable approach. Accordingly, ADM is introducing a sustainable and effective alternative to the conventional polyacrylate superabsorbents widely used in the hygiene industry. This presentation offers technical information on new bio-based superabsorbents made with renewable resources.

## Where's the Growth in Hygiene Products and Materials?

*Pricie Hanna, Vice President*
*John R. Starr Inc.*

In the highly competitive hygiene products business, the opportunities for profitable growth are most often found in innovative new product designs and raw materials that respond to genuine end user needs and preferences. This presentation will highlight recent examples of promising innovations which will drive future trends in the hygiene industry. Several of the key findings of the recently published report on the Global Outlook for Hygiene Absorbent Products and Key Raw Materials to 2011 will be discussed.

# insight 2007 Abstracts -- Thursday, October 25

## 10 Commandments for Well Managed Diaper Sites – 7 Capital Sins to Avoid

*Carlos Richer, Director*
*Richer Investments*

Explore some of the most common and at the same time most expensive problems associated with the operation of a typical disposable hygiene factory. Take a closer look at the myths and meditate about their validity. Which raw material suppliers are yours to keep and what are the signals that tell you it is the right time to replace a raw material supplier? Are all large supermarkets a necessary evil? Is it possible to have an accurate sales forecast? Can you make good margin with a private label? When does a client becomes an enemy? You may be surprised about the simplicity of some of the solutions presented, but do not be over optimistic; many times the simplest solutions are also the ones requiring the strongest commitment and effort in order to make them work. Many of the solutions have to do with plant infrastructure and human interaction between different departments. A few others have to do with internal hardware limitations or the need for connection with the market. Sometimes it is the size and the required critical mass that limits the ability to compete. Communication skills and an honest relation with your clients is a strong asset that needs to be cultivated and groomed. Mental spider webs or lack of creativity is a very dangerous condition in this industry. Finally, it is also important to understand the diaper industry is not for everyone, without the right profile and attitude there is a limited chance for survival.

## Where Have All the Inventions Gone?

*Rick Jezzi, Principal*
*A.D. Jezzi & Associates, Inc.*

This paper is a random walk discussing the significant inventions and technologies that have made the nonwoven business what it is. It will also discuss the state-of-the-business today with regards to intellectual property management and the reduction of investment in development of new technology platforms. It will also highlight where the potential opportunities lie for the future.

## Zapping Viruses and Bacteria with Light Activated Self-Sterilizing Nonwoven Fabrics

*Stephen Michielsen, Research Scientist*
*North Carolina State University*

New, photoactivated nonwovens have been developed which inactivate >99.9% of influenza virus in less than one hour. We will discuss the development and potential applications of this new nonwoven. These materials are being further developed by LaamScience in collaboration with the College of Textiles at North Carolina State University.

## Rife Solved? The Nanoscope and What It Can Do

*Eric Rowley, Advanced Development Engineering Manager*
*Conversion Technologies International*
*Stanley Truman, Researcher*
*TBCoptics*

Stan and Eric continue last year's presentation on the examination of unplated microfibers and nanofibers, as well as illustrate some of the light staining techniques of the newest generation of the Truman Nanoscope. They will also take you into the world of *really* small, via video, to examine what goes on inside a single cell organism.

## Techniques for Evaluation of Pulp Defibration Performance

*Mark Bolyen, Manager*
*Marketing Technology Service, Inc.*

Dry defibration of various types of fluff pulps is accomplished using hammermills and other devices, with mixed results in quality. Nits and dust issues are common in the industry. This paper provides data on nit counts and energy demand, comparing laboratory hammermilling with various screen sizes, to commercial mills. Techniques are described to evaluate defibration results using a new nit counting device, based on the original design of the Johnson nit counter, that is now being offered to the industry.

## 16 Ways to Sunday – Performance of Advanced Diaper Designs

*Jim Hanson, Director*
*Marketing Technology Service, Inc.*

20+ years have gone by since superabsorbent thin diapers were commercialized. Literally thousands of separate designs and configurations have been offered to the market and some have proven better than others, whether complex or simple with minimal features. This paper looks at several of the current diaper offerings, comparing performance against historical examples, along with component analysis. Comments on the future of diaper design and possible simplification will be offered, including pre-formed airlaid cores, hotmelt printed SAP, and filament type designs.