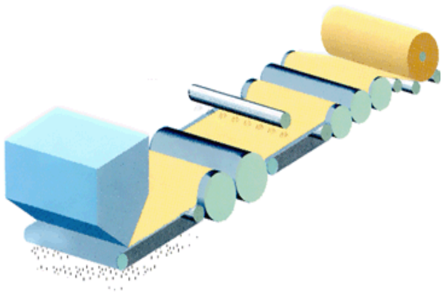

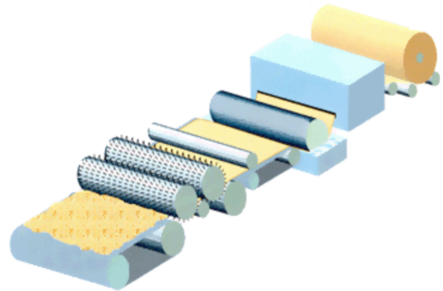

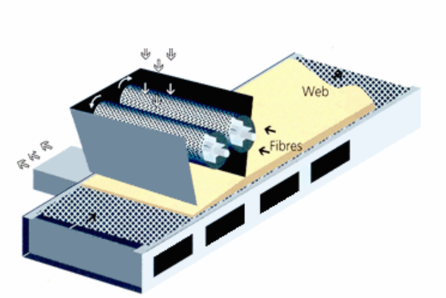

GLOBAL POLYPROPYLENE NONWOVEN FABRICS

Americas, Europe, Asia/Pacific, Africa & Middle East

Markets, Technologies & Trends 2003 - 2008

CMR, Inc. Prospectus For
An In-Depth Market/End Use Economics Study
Ready for Delivery

- Global in Scope: Market Size, Major End Users and Industry Trends
- Major End Use Requirements – Unmet Opportunities
- PP Nonwovens Demand – End Uses vs. Type of Fabric
- Intermaterial Substitution – ex: PP vs. Polyester
- PP Nonwovens Producers/Profiles
- Market/Technology of Major Fabric Producers
- PP Nonwovens Technologies – Status Quo?
- Manufacturing Cost Economics – Modular Approach
- Converting Operations of PP Fabrics – Upstream
- Impact of New Generation Metallocene Polyolefins
- Major PP Suppliers to Fabric Producers

Chemical Market Resources, Inc.

560 Blossom St., Suite C, Webster, TX 77598
Tel: 281-557-3320; Fax: 281-557-3310; Web: www.CMRHouTex.Com

GLOBAL POLYPROPYLENE NONWOVEN FABRICS
Americas, Europe, Asia/Pacific, Africa & Middle East
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INTRODUCTION

The term nonwoven suggests that the fabric has been produced by means other than weaving. The process for manufacturing nonwoven fabrics has evolved from the process technology that goes beyond fibers, filament and yarn.

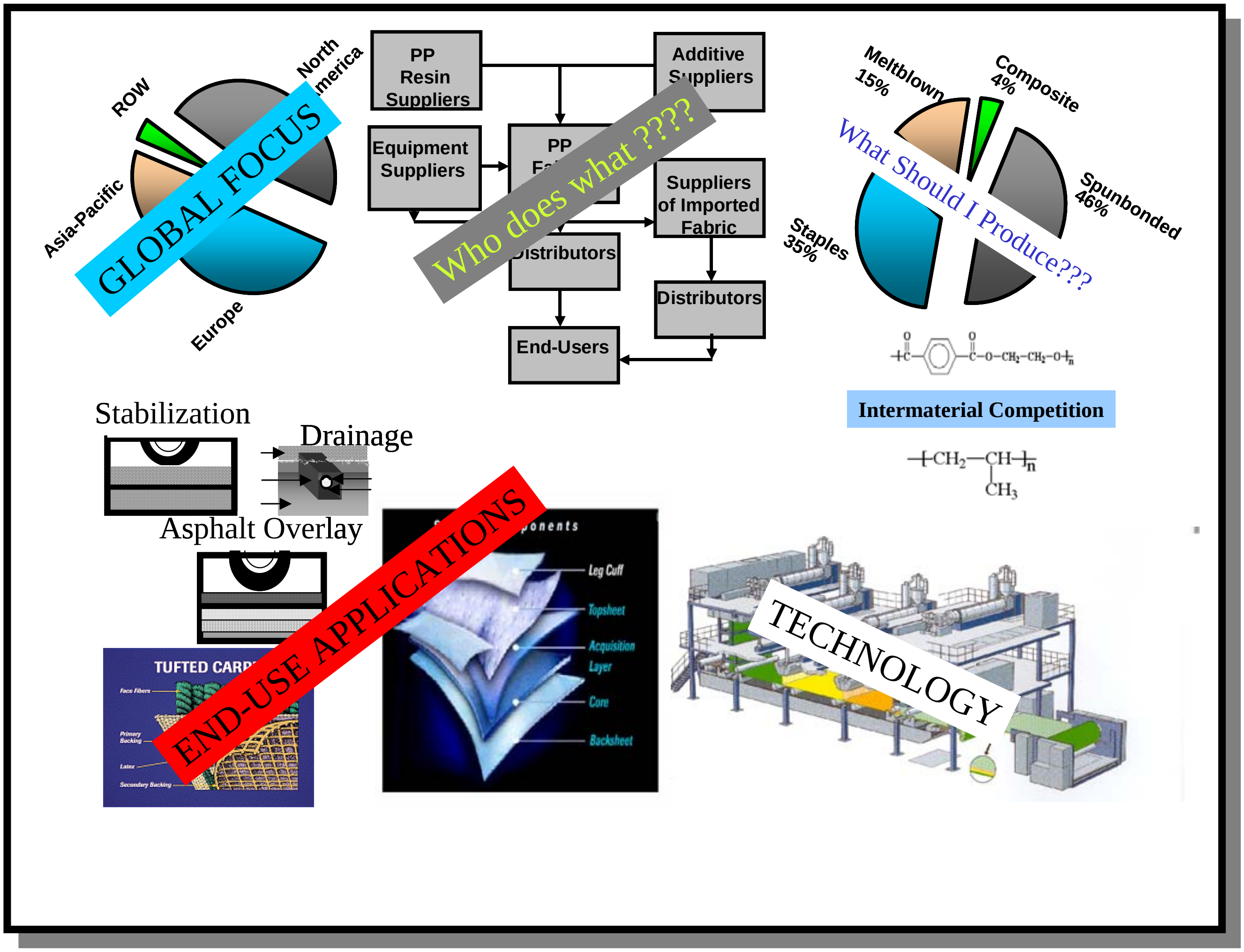
In nonwoven polypropylene fabrics, the fibers are processed directly into a planar sheet like fabric structure thus bypassing the intermediate yarn step. The fibers are held together as a fabric either by chemical bonding or mechanical interlocking (entanglement of fibers) or heat fusion.

The total North American demand for polypropylene nonwoven fabrics was 1,500 million pounds in 2001 and the projected growth rate is 5.0% annually for the next five years.

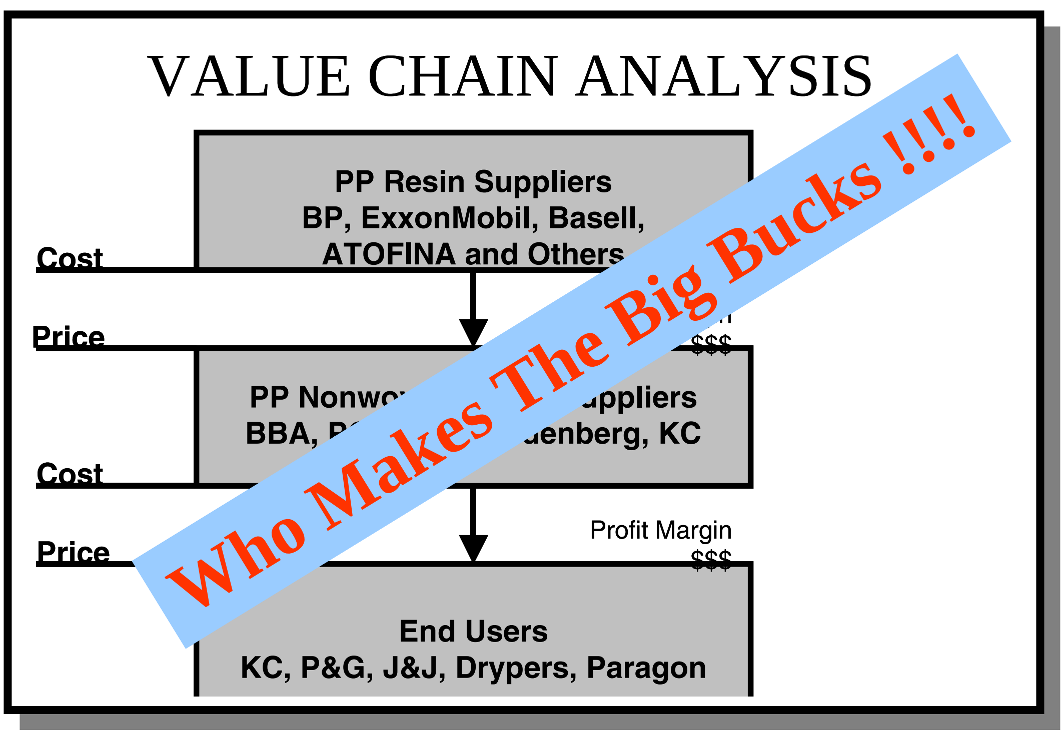
Nonwoven fabrics find use in durable and disposable end-use applications in the marketplace. Nonwoven fabrics used for disposable applications include (1) baby and adult diapers, (2) feminine sanitary products, (3) surgical gowns and masks, (4) filters and others. Nonwoven fabrics used for durable applications include (1) carpet, (2) geotextiles, (3) subsoil covers for road-beds, (4) furniture interlining, (5) industrial - filtration and others. For this study, we have classified nonwoven fabrics into different categories based on the manufacturing process of the nonwoven fabric. Typically, nonwovens are classified into the following: (1) spunbonded, (2) meltblown, (3) composites and (4) staples.

A NEW MULTICLIENT STUDY

To assist companies in understanding the current market status and help them monitor the recent developments within the industry, Chemical Market Resources, Inc. (CMR), presents Global Polypropylene Nonwoven Fabrics 2003 - 2008 the Americas, Europe, Asia/Pacific and Africa-Middle East, part of the ongoing Polyolefin's Markets, Technologies and Trends Series. CMR has extensive experience in polypropylene fabric and related markets. This study represents a comprehensive report with focus on business and technical strategic analysis and includes an in-depth analysis of the status of these products and markets. The report will be valuable in assessing opportunities and strategies in the polypropylene nonwovens industry.



GLOBAL FOCUS
North America
ROW
Asia-Pacific
Europe
PP Resin Suppliers
Additive Suppliers
Equipment Suppliers
Suppliers of Imported Fabric
Distributors
Distributors
End-Users
Who does what ????
Meltblown 15%
Composite 4%
Spunbonded 46%
Staples 35%
What Should I Produce???
Intermaterial Competition
Stabilization
Drainage
Asphalt Overlay
TUFTED CARP
END-USE APPLICATIONS
Leg Cuff
Topsheet
Acquisition Layer
Core
Backsheet
TECHNOLOGY



VALUE CHAIN ANALYSIS
PP Resin Suppliers
BP, ExxonMobil, Basell,
ATOFINA and Others
Cost
Price
$$$
PP Nonwo
BBA, P
uppliers
denberg, KC
Cost
Price
Profit Margin
$$$
End Users
KC, P&G, J&J, Drypers, Paragon
Who Makes The Big Bucks !!!!

HISTORY

In early 1940's development efforts were in overdrive in a quest to find a one step process to convert polymer into a web like structure. The big fiber producers at that time, namely DuPont, Freudenberg and Monsanto, worked in converting the polymer into continuous "cold drawn" fibers. These fibers were then laid out into a fabric structure and bonded together for integrity. The most commonly used polymers in this research were polyethylenes, nylons and PET.

Exxon joined this bandwagon in 1950's and with the help of Naval Research Labs began work on converting their recently commercialized polypropylene into fine fibers. Their efforts led to the attenuation of continuous or discontinuous "hot drawn" fibers into a random web like structure similar to the one developed from the early research work of DuPont and others.

The results of this early work led to two main processes that have gained significant importance on a commercial scale. These were the spunbond and the meltblown process. DuPont were granted the first patent in 1967 for the spunbonding process and Exxon demonstrated the first 10 inch meltblowing line in 1965.Since the early days of the 1950's spunbonding and meltblowing have undergone radical technological advances in terms of polymer spinning, line speeds, capacity of lines and softer fabric structures, and the end-uses have diversified over the last few years.

MAJOR OBJECTIVES

- ***Define the worldwide status of PP Nonwovens in terms of; (1) type of fabric used, (2) end-use markets and (3) regional differences.***
- ***Assess the global PP Nonwoven industry and analyze the trends in the industry.***
- ***Assist PP Nonwonens producers and converters in assessing the market trends and intermaterial competition***
- ***Assist major end users of PP Nonwovens in selecting the fabric and understanding the manufacturing cost economics***
- ***Develop detailed attribute analyses and value based analyses of fabrics in end use applications***

KEY ISSUES ADDRESSED

- ***Outline of the GLOBAL PP NONWOVEN FABRIC markets***
- ***Current & future technologies for PP Nonwoven manufacturing processes and costs***
- ***Market/technology positioning of major PP Nonwoven producers***
- ***PP resins and end use requirements, and unmet opportunities for major fabric producers***
- ***Impact of metallocene PP on the markets***
- ***Detailed manufacturing cost analysis for fabric and converting to end use structures***

TIMING, SUBSCRIPTION & ORDERING INFORMATION

This study is currently available for immediate delivery. The price of the study is U.S. $8,000 for two hard copies of the report. Additional copies are available for $500 each. To subscribe, simply sign the attached order form and mail or fax to CMR. This study is part of the Polyolefins MT&T series. For further information call us at 281-333-3313.

APPROACH

The information, data and conclusions of this analysis were developed from sources in the Americas, Europe, Asia/Pacific, and Africa-Middle East and are based upon, but not limited to, the following methods:

Search, review and interpretation of information from government sources, trade and industry groups, published articles and product promotional information

A thorough search of relevant patent technology and process details with producers and converters

Information from industry experts and CMR proprietary projects related to PP Nonwoven Fabrics and resins

Interviews with leading polyolefins, polyester and nylon resin and fabric suppliers, end users and distributors

Interviews with all of the major converters of PP Nonwovens and end users to understand their current and unmet needs

Other multiclient studies completed by Chemical Market Resources, Inc.

The manufacturing cost economics based on our extensive cost databases and interviews.

The intermaterial competition was analyzed based on "multi-attribute analysis", a technique used by Chemical Market Resources, Inc. and well accepted by our major clients.

Interviews with government agencies

TABLE OF CONTENTS

ABOUT OUR COMPANY...

CHEMICAL MARKET RESOURCES, Inc. was founded in 1990 to focus in the areas of marketing research and strategic planning. Our global clientele is concentrated within the chemical, petrochemical, plastics and related industries. Prior to joining CMR, Inc. our associates held responsible positions in chemical and allied industries. Our team of professionals has strong technical backgrounds combined with hands-on business experience. Compilation of data, strategic analyses, writing and editing are entirely conducted in our state of the art facilities in-house, to assure quality control at each stage of development. Our strength is in providing our clients close interaction to maximize effectiveness. We provide in-depth analyses with actionable statements in a cost-effective and timely fashion.

Our recently completed multiclient studies:

1. **Soft TPOs – North America, Europe & Japan – Markets, Technologies, and Trends 2001-2006 – Completed April 2002.**
2. **Worldwide Styrene Block Copolymers (Unsaturated, Hydrogenated & High Styrene) – Markets, Technologies, and Trends 2002-2008 – Completed September 2002.**
3. **Global Polypropylene Films – Markets, Technologies, and Trends 2001-2006- A global overview of polypropylene film markets with detailed analysis on the emerging markets and trends – Completed February 2002**
4. **Acid Copolymers & Ionomers (EAA,EMAA,EEA, EMA, EnBA) – North America, Europe & Asia – Markets, Technologies, and Trends 2000-2005 – Completed September 2001.**
5. **Metallocene 2000 – Markets, Technologies, and Trends – Completed December 2000.**
6. **Elastomeric Polyolefins (TPOs, TPVs, & Plastomers/Elastomers) – North America, Europe & Japan – Markets, Technologies, and Trends 1999-2004 – Completed December 1999.**
7. **Worldwide EP Elastomers – Markets, Technologies, and Trends 1998-2003 - Completed March 1999.**
8. **High EVA Copolymers – North America, Europe & Japan – Markets, Technologies & Trends 1996-2001 – Completed June 1997.**
9. **Flexible PVC, EP(D)M Rubbers and TPEs vs. New Generation Polyolefins - Markets, Technologies and Intermaterial Competition Trends 1995-2000 - Completed January 1996**
10. **New Generation Polyolefins – A Bimonthly Global Review of Markets, Technologies & Trends - Ongoing**

Conferences

We conduct a highly successful Annual Conference FlexPO that covers intermaterial competition among flexible polymers including fPVC, polyolefins, TPEs and rubbers. FlexPO 2004 will be held September 15-17 at the San Luis Resort, Galveston, Texas.

For fresh and innovative ideas on Polyolefins Market Research

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