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BACKGROUND TO THE STUDY

Growth in the European wood-plastic composites market averaged 23% per year 2003 and 2007. This means that the market grew in that period TEN TIMES as fast as the plastics industry as a whole in this region, although rates do vary by country and by polymer.

AMI Consulting’s first study of the West European wood-plastic composites industry, published in 2003, focused on identifying viable market opportunities for wood-plastic composites in Europe. This new 2008 study has examined the key factors driving market growth now that these opportunities are being exploited and has identified key technological challenges and sustainable opportunities.

During the course of AMI Consulting’s research work to back up six leading international conferences on Wood-Plastic Composites since 2001, there have been some fundamental changes and new challenges for the European wood-plastic composites industry.

The study has involved interviews with more than 100 market participants and has detailed applications in:

- **Construction**
  - Lightweight board, embankment support, shuttering and other applications.

- **Building exteriors**
  - Decking
  - Window profiles
  - Other applications under development.

- **Building interiors**
  - Applications including doors and door frames and decorative profiles.

- **Miscellaneous applications**
  - Returnable transit packaging
  - Furniture
  - Reel cores
  - Marine applications.

Thousands of tonnes of new WPC production have also begun to come on stream outside Europe. Europe is a target market for many of the new producers and even for some established US production.
In view of these and the many other changes at this exciting time, AMI Consulting’s multi-client study service can provide subscribers with the information they need to make coherent and intelligent decisions about the future for wood-plastic composites in Europe. Fundamental to the research is a detailed understanding of the value chain. The service provides both a hard copy report on the current and future status of wood-plastic composites and a customised consulting service for each subscriber to analyse and develop their position in this evolving market.

AMI Consulting is uniquely qualified to undertake and complete the project as a result of its:

- Unrivalled knowledge of all the markets for thermoplastics in Europe and particularly the market for wood-plastic composites via its regular wood-plastic composites conferences.
- Team of consultants with many years’ experience of plastics and composites in the European building industry
- Extensive experience in analyzing the compounding and distribution of plastics
- Strong knowledge of the current status of the value chain and its players
- Functional experience in conducting market surveys and business analysis worldwide.

## STUDY OBJECTIVES

The overall objective of the study is to provide senior managers at subscribing companies with a strategic tool with which to understand and profit from the changes occurring in the market for wood-plastic composites in Europe. In this edition of our study AMI Consulting will be asking about the key issues we have identified in the many years that we have been monitoring the market as crucial to sales growth:

**Application commercialisation**

- Professional channels (installers, builders and merchants).
- Retail channels (DIY stores and similar) – retailers have not yet been motivated with a ‘package’ that has enthused them with the idea that they can make more money selling WPC than wood
- Access-to-market: development funding

**The economics of wood-plastic composites**

- What is the nature of the return?
- How do the economics stack up?
## Investor commitment

- How do potential investors value the products offered by producers?
- To what degree are producer strategies driving an expansion in investor activity?
- How can producers court new investors?
- What basket of services is essential from a wood-plastic composites producer?
- Is the Trex model the only business model to aspire to?

## Technical challenges

- Which technology is most appropriate for each application?
- Weight limitations
- Joining limitations
- Surface appearance
- Cost effective fabricated systems

## Materials selection

- Competitive sourcing/pricing
- Inter-material competition

## Legislative Influences

- What has been their impact on the wood-plastic composites market (has there been an impact?)

## Key commercial challenges

- What competitive strategies will lead to success?
- What other strategies can be applied to the wood-plastic composites market?

However, in a study of this nature the position of each subscriber and their objectives can be radically different. Therefore this syndicated study also includes up to 1 day’s consulting time for one member of AMI staff to meet with each individual subscriber to discuss the report’s contents and stimulate thoughts and ideas on how they can use it to add value to their business.
SCOPE OF THE STUDY

The geographic scope is all the 25 European Union countries plus Norway, Iceland and Switzerland. These countries are listed in the table below:

- France
- Italy
- Benelux (Belgium, Netherlands, Luxembourg)
- Spain
- Baltic States (Estonia, Latvia, Lithuania)
- Poland
- Germany
- United Kingdom
- Scandinavia (Sweden, Norway, Denmark, Finland)
- Other West European countries (Austria, Ireland, Switzerland, Portugal, Greece, Cyprus, Malta, Iceland)
- Other Central European countries (Czech Republic, Slovakia, Slovenia, Hungary)

The product scope is all major wood-plastic composites containing:

- Cellulose based materials in the form of sawdust, chips, flour etc. but not other materials (such as hemp, flax, sisal, Keraf, nut shells etc.), which have their own markets.
- Polyethylene, PVC, polypropylene, polyamide and/or any other polymeric materials identified during the course of the research.
STUDY METHODOLOGY

AMI Consulting developed primary information throughout late 2007 and early 2008 by interviewing leading wood-plastic composite producers, distributors and customers.

We have updated/verified and expanded on knowledge of the market for wood-plastic composites in each European country. We have also focused extensive effort to analyse where new opportunities exist and where key challenges can be circumvented.

Following recent completion of the research and analysis, AMI Consulting is now in a position to send the final report to clients immediately. AMI Consulting will also meet with each subscriber for up to 1 day to both present our findings to subscribers but also to help develop specific strategies to meet their particular circumstances and needs.

The expectations of the 36 existing wood-plastic composite producers and others are covered in the study.

AMI also spoke to established European wood-plastic composite producers and their suppliers and to the new Asian exporters of wood-plastic composites into Europe.

SCHEDULE

Fieldwork on the report was carried out in late 2007 and early 2008, with the completed study published in April 2008.
A substantial discount is offered to companies who subscribe before the study is published. The total schedule is indicated below:

<table>
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<th>Study Charges</th>
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<td>Post completion subscribers</td>
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Previous subscribers qualify for an additional discount of 10%. The fee includes three copies of the study and a review meeting to discuss the report’s contents. The main tables and data within the report are also available on CD and have been created in Microsoft® Word and Excel software packages.

Review meetings and discussions will be held at AMI’s offices. Arrangements at other locations will incur travelling costs to be invoiced separately.

**ANONYMITY, CONFIDENTIALITY, LIMITATIONS OF LIABILITY, AND MISCELLANEOUS TERMS AND CONDITIONS**

AMI Consulting will not reveal the identity of the subscribers to the study. All information provided by subscribers to AMI will be held in confidence.

Unless otherwise agreed, all contracts will be subject to English law and disputes settled in England.

AMI Consulting’s liabilities will be limited to the project fees.
QUALIFICATIONS AND EXPERIENCE

AMI Consulting is a division of Applied Market Information Ltd., an international marketing and business consulting firm exclusively focused on the plastics and associated industries. The company has extensive experience in the thermoplastic masterbatch and compounding industries specifically, and in completing market research and business development projects in the plastics industry in general. Founded in 1986, AMI Consulting has helped numerous chemical industry suppliers make better business decisions through improved business information.

The research programme for this study has been carried out by a team of European researchers led by:

Kerry Satterthwaite, Senior Research Editor, AMI Consulting
John Nash, Strategic Research Director, AMI Consulting.

Detailed profiles of these personnel may be found in the attached appendix.

A list of relevant projects completed recently by AMI Consulting appears on the following page.
AMI Consulting was founded in 1986 and is now Europe’s largest consultancy dedicated to analysis of the plastics industry. In 2001 AMI acquired its long-term partner’s plastics practice in the US and in 2002 it acquired a plastics-in-construction practice. AMI Consulting is an independent company providing industrial market research and business analysis for the plastics industry worldwide. The company offers a range of products and services that can meet a wide variety of needs.

Among the services that can be tailored to clients’ specific requirements are:

- Strategic consulting
- Market studies
- Value and supply chain analysis
- Image and reputation research
- Due diligence, merger and acquisition programmes
- Competitive benchmarking

AMI Consulting has particular expertise in the processing and on the processors of thermoplastics and publishes many directories on these subjects as well as varied confidential individual client work.

Recent multi-client work has included:

- Polymer distribution in Europe
- Polyethylene demand in West and Central Europe
- Polypropylene compounds in West and Central Europe
- European pressure pipes
- The future of the European injection moulding industry
- The European blow moulding market
- The global artificial grass market
- The market for caps and closures in Western Europe
- European waterproofing: Commercial and industrial roofing
- Thermoplastic masterbatches in Western and Central Europe

The company is a world leader in plastics conferences and will be holding its 6th annual wood-plastic composites conference in October 2008:


This conference regularly attracts over 200 key global players from retailers to profile makers, to machinery, materials and technology providers from more than 30 countries worldwide.
To order this study please complete and sign the form below and return it by fax to AMI Consulting on +44 (0)117 989 2128 or e-mail your order to ks@amiplastics.com. This will serve as a binding agreement.

I wish to subscribe to “WOOD-PLASTIC COMPOSITES IN EUROPE – Preparing for the Future”
at the post publication price, EUR 6,000

(I agree that the circulation of the report will be restricted to this company and subsidiaries in which its holding is more than 51 percent).

I also wish to order additional copies at EUR 200/copy.

I do not wish to subscribe to this report but please keep me updated about AMI Consulting’s research activities in the wood-plastic composites industry.

Invoices to be paid within 30 days.

Sincerely,

AMI CONSULTING

ACCEPTED BY:

Signature:  
Name:  
Title:  
Company name:  
Address:  
Email:  
Tel:  
Date:  
**RESUMES OF KEY PERSONNEL**

**RESUME OF KERRY SATTERTHWAITE**

**Summary**
21 years’ experience in the international metals, chemicals and polymers industries.

**Functional Experience**
- Market research
- Market analysis
- Acquisition targeting
- Strategic Development

**Relevant Market Experience**
- West European plastics industry
- Analysis of the economics and supply chain for metals
- Inter-material and inter-process competition
- Distribution and supply chain analysis

**Employment History**

**Applied Market Information Ltd**, Bristol, UK, April 2001 to present
Senior Research Editor

Senior Consultant
Wrote and researched single and multiclient studies on international metals, minerals and chemicals markets.

**Education**

**King’s College, London University**, UK (1984-1987)
BSc Hons Chemistry

**Liverpool University**, Liverpool, UK (1990)
PG Dip. Pollution Chemistry

**Papers and Presentations**
Regular speaker and chair at AMI and other conferences
**RESUME OF JOHN NASH**

**Summary**
- 30 years’ experience in the European plastics industry as a consultant and advisor.

**Functional Experience**
- Marketing research
- Acquisition analysis
- Polypropylene compounds
- Polypropylene resins
- Other plastics

**Commercial development**
- Marketing management
- Specialty chemicals
- Plastics additives
- Masterbatch

**Employment History**
- **Applied Market Information Ltd., Bristol, UK, 1994 to present**
  - Head of Strategic research
  - Director of strategic research for the leading European consulting firm dedicated to serving the chemical and plastics industries. AMI provides market research, acquisition analysis, product development and strategic planning.

- **Monopol, 1992-1994**
  - Commercial Director
  - Led the business into polypropylene compounds, with responsibility for both sales and product development

- **ICI, 1977-1991**
  - Held a number of positions in the commercial department, ranging from sales representative to group buyer to product manager in the polypropylene compounding area.

**Education**
- **EXETER UNIVERSITY, UK**
  - Honours Degree

**Professional Associations**
- Society of Plastics Engineers

**Presentations**
- Speaker and chair at AMI’s annual Wood-Plastic Composites conferences and numerous other international conferences.