



Innovations in PET Packaging

PET – technology and strategy
Two day Pira International conference



Tuesday 3 and Wednesday 4 May 2005

Crowne Plaza Hotel, Vienna, Austria

With presentations from leading companies:

ALTANA Chemie
Amcor PET Packaging
Campina
Canadean
Coca-Cola Company
Colormatrix
Constar
Erema

ETS / Oxysense Europe
Eurointelligence
Fraunhofer IVV
Husky Europe
Kirin Brewery
Miller Brewing Company
Milliken & Company
Mintel International Group

Mitsubishi Heavy Industries
Nanocor
Nestlé Waters
PETCore
Procter & Gamble
Rexam
TNO Quality of Life Institute
UPM Machinery

Supporting associations:



PET – innovation, expansion and opportunities

Plastic is the fastest growing material for packaging and PET is one of the fastest growing plastics. So what are the key drivers behind this growth? PET meets a lot of brand owners' current and future packaging requirements. It provides high barrier properties and therefore extended shelf life without compromising clarity or image. PET offers an excellent cost/performance ratio, good supply chain performance and its recyclability and lightweighting ensure it meets with increasingly stringent environmental requirements.

With so many benefits, it is no surprise the range of products incorporating PET is expanding rapidly. Having developed a significant share of the drinks market, particularly in soft drinks and mineral water, brand owners are considering applications for beer and flavoured alcoholic drinks. Food producers are also starting to use PET as a replacement for jars and cans. Cosmetics and toiletries manufacturers are also increasingly turning to PET for answers. So get set for a period of exciting new developments in material performance.

Increased brand owner interest and investment are really driving innovation and expansion – and change has been rapid. If the momentum is to continue, new technologies need to be grasped and implemented with existing and future applications and needs in mind.

Get the knowledge you need

With so much happening you need to keep up or you could miss out on the latest breakthroughs or killer applications. To make it really easy, Pira has put together a new conference to bring you up to speed fast. The programme brings you technologies employed today in commercial applications and groundbreaking ideas for the technologies of tomorrow. Highlights include:

- Unrivalled line up of the most innovative brand owners sharing their experiences in PET applications
- The most interesting and effective ways of enhancing barrier properties
- The active technologies of tomorrow with examples from early adopters
- New oxygen sensing technologies
- Assessments of improved filling techniques
- Latest developments in nanotechnology for PET applications to enhance strength and shelf life
- Latest advances in PET production technology

Senior level speakers from all sections of the supply chain will ensure you get a clear strategic picture of the future market, and provide unrivalled networking opportunities.

Innovations in PET P

Two day Pira International conference

Tuesday 3 May 2005

08:00 Registration and refreshments

Key market developments

09:00 **Opening address from the chair: Graham Cox, Head of International Consultancy, PIRA INTERNATIONAL, UK**

09:10 **Exploring the European PET packaging marketplace**

- The key players and developments
- Developments in western, central and eastern Europe
- Analysing the significance of rising PET prices
- Future outlook

Jane Climpson, Managing Director, EUROINTELLIGENCE, UK

09:40 **End user market developments and trends – the beverage perspective**

- New markets for carbonated soft drinks – applications for smaller PET bottles
- Exploring trends in beer and flavoured alcoholic beverages (FABs)
- Developments in alternative packaging materials for beverages
- Improved barrier and shelf life
- Uses of novel design, shapes and colours

Kevin Baker, Director Alcoholic Beverages, CANADEAN, UK

10:10 **PET packaging on the world stage**

- Exploring how PET is being used in the US
- Is a PET revolution coming from China?
- Update on developments in Europe and the rest of the world – what are the next steps?
- Sample viewing and future outlook

Keith Barnes, Packaging Expert, MINTEL INTERNATIONAL GROUP, UK

10:40 Morning refreshments

11:00 **Learning with barrier PET bottles for beer – a Miller Brewing Company perspective**

- The hype and the reality – requirements to meet quality standards
- The retail and consumer opportunity
- Overcoming consumer apprehension and misconception
- Outlook for the future of beer in barrier PET

Jeffrey E. Garwood, Manager Packaging Innovation, THE MILLER BREWING COMPANY, US

11:30 **PET in dairy – assessing end user requirements**

- Enhancing brand identity through packaging
- PET – a tool to reduce costs?
- Future opportunities and threats for barriers and closures

Jan Arnaut, Business Development Manager Drinks, CAMPINA, Belgium

12:00 **Implementation of PET material for Fairy™ Liquid**

- What did it bring to the brand?
- What were the technical challenges and learnings?
- What does the future bring for PET packaging?

Christian Gerlach, Senior Scientist R&D Packaging, PROCTER & GAMBLE, Belgium

12:30 **Latest developments in materials competitive to PET**

- Developments in glass, cans and cartons
- The opportunities for PET in beer
- Examining innovations in alternative plastic packaging – PEN
- Lessons learnt from client case studies

Felix Helander, Director Business Intelligence, REXAM, UK

13:00 Lunch will be served for delegates and speakers

Latest advances in PET production technology

14:15 **Latest advances in preform moulding**

- Increasing mould cavitation to gain more output per machine
- Achieving faster cycles through new cooling techniques
- Reducing scrap levels through new control platforms

David Cook, President, HUSKY EUROPE, Luxembourg

14:45 **Asceptic filling in PET – end user's point of view**

- Equipment considerations for asceptic filling
- Exploring the package-product-shelf life criteria
- Future developments

Anne Roulin, Package and Product Development Manager, NESTLÉ WATERS MANAGEMENT AND TECHNOLOGY, France

15:15 **Latest advances in PET crystallising and drying technology using infrared drying (IRD)**

- The science and theory of drying PET
- Comparison of conventional desiccant dryers to infrared
- Exploring IRD principles of operation
- Case studies of IRD in production
- Projections for the future

Roy Fowler, Director, UPM MACHINERY, UK

15:45 Afternoon refreshments

Regulatory and environmental considerations for PET

16:05 **Latest legislative issues relating to the European and global PET market**

- Update on existing legislation and its impact on PET development
- Are our current Europe-wide regulations sufficient?
- New and forthcoming legislation
- Free trade versus a subsidised collection infrastructure
- Future scenario planning

Frank Koelewijn, Director General, PETCORE, Belgium

16:35 **Creating packaging from recycled PET – the global view from an end user's perspective**

- Technological approaches
- Quality requirements for feed stock and finished products
- Regulatory considerations for post consumer plastics in food contact applications
- Technology authorisation criteria
- Global status

Dr. Forrest L. Bayer, Director Packaging Scientific and Regulatory Affairs, THE COCA-COLA COMPANY, US

17:05 **Latest developments in recycling for PET**

- Identifying markets for recycled PET
- Sources of recovered PET, sorting and cleaning
- Examining food contact legislation
- Challenges and implications for beverage producers
- Recycling machinery developments
- Cost comparisons with virgin PET

Manfred Hackl, Vice President, EREMA, Austria

17:35 Summary from the chair and close of day one

17:45 **Drinks reception**
All speakers and delegates are invited to a relaxed and informal drinks reception, providing an exclusive opportunity to network and discuss the day's proceedings.

Wednesday 4 May 2005

08:30 Registration and refreshments

09:00 **Opening remarks from the chair: Frank Koelewijn, Director General, PETCORE, Belgium**

Enhancing barrier properties for PET

09:10 **Enhancing PET barrier through the use of Diamond Like Carbon (DLC) coating**

- High speed mass production of barrier PET bottles using DLC coating
- New advances in DLC coatings
- Exploring market impact of plasma coatings
- Advantages of DLC coating for PET barrier enhancement
- Cost and production implications

CASE STUDY

Masaki Nakaya, Senior Engineer, KIRIN BREWERY and Shuzo Nawata, Engineering Manager, MITSUBISHI HEAVY INDUSTRIES, Japan

09:40 **Latest developments in PET barrier solutions**

- Multilayer vs. monolayer
 - The role of multilayering in providing effective barrier
 - Implications for visual quality and clarity
 - Cost versus benefit analysis for multilayering
- Cor Jansen, R&D Director, AMCOR PET PACKAGING, Belgium**

10:10 **Exploring PET light barrier requirements**

- Analysing the relevance of high wavelength blocking in PET
- Light and oxygen sensitive model systems for testing PET UV barriers
- Rapid oxygen scavenging closure testing and polymer matrix effects

Jan Jetten, Project Manager, TNO QUALITY OF LIFE INSTITUTE, Netherlands

10:40 Morning refreshments

11:00 **Enhancing UV barrier properties in PET packaging**

- The challenges of effective UV barrier
- Enhancing UV barrier whilst maintaining high clarity
- The significance of differing levels of UV barrier on the stability of product ingredients and formulations in PET
- Challenges and considerations in providing enhanced UV barrier through the use of additives
- Potential benefits and sources of value to all tiers of the PET packaging chain

Mike Purcell, Market Manager, PET Additives, MILLIKEN & COMPANY, US

11:30 **Recent developments of monolayer barrier technologies for PET**

- Reducing initial investment costs – cost versus benefit analysis
- Oxygen scavengers combined with multi-layer and other barrier options
- Investigating shelf life considerations, in particular for beer and carbonated soft drinks (CDS)
- Exploring a new generation of UV blockers

Dr Steven Tattum, Marketing Manager Packaging, COLORMATRIX EUROPE, UK

12:00 **Nano-enhanced polyamide barrier resins for multilayer PET packaging applications**

- Formation of polyamide nanocomposite
- Application to stretch blow moulded bottles, thermoformed sheets and cast films with PET as structural layers
- Nano-enhancement impact on oxygen and CO₂ barrier
- Manufacturing consideration when nano-polyamide barriers are employed
- Impact of package cost

Tie Lan, Technical Director, NANOCOR, US

12:30 **Nanocomposite coatings – potential use as barrier coating in PET packaging applications**

- Examining nanocomposite coatings
- Exploring barrier technology for PET
- Exterior PET bottle coating – experimental data and outlook

Dr Thomas Sawitowski, Head of Nanotechnology, ALTANA CHEMIE, Germany

13:00 Lunch will be served for delegates and speakers

Latest developments in active technology for PET

14:15 **Latest advances in oxygen scavenging technology in multilayer PET**

- Available scavenger technologies for PET bottles and closures
- Comparison of active and passive barrier materials
- Oxygen reaction in the scavenger versus beverage
- Absorbing residual oxygen from head space and product
- Measuring the property profiles of oxygen scavengers, test methods and facilities

Kajetan Müller, Scientist, FRAUNHOFER IVV, Germany

14:45 Afternoon refreshments

15:05 **Latest advances in active scavengers in monolayer PET**

- Using scavengers to extend shelf life
- Potential applications in the juice market
- Future directions for monolayer scavenging technology

Nicola Faccioli, Marketing Director, CONSTAR, Italy

15:35 **New developments in oxygen sensing technology**

- Oxygen sensing in PET applications
- Creating an oxygen indicator
- Applying the technology to the pack
- Advantages of accurate oxygen assessment

Guy Kouwijzer, Managing Director ETS / OXYSENSE EUROPE, Belgium

16:05 Summary from the chair

16:15 Close of conference

PLUS – Complimentary CD!

A CD-Rom of all presentations will be sent free of charge after the conference. You'll get the maximum benefit from the day's proceedings by having the information permanently available back at the office, all at no additional cost!

Brand owners and end users

You'll hear from other brand owners and end users on the reality of implementing new technologies, the challenges faced and benefits experienced. These frank accounts will provide an exclusive opportunity to assess how to meet key objectives for your own packaging; whether to enhance shelf life, make your pack more eye catching, improve supply chain performance or reduce cost. Whatever your agenda, **Innovations in PET Packaging** will deliver inspiration, information and expert guidance – helping you make the right technology decisions.

Packaging converters

This event will help you assess what brand owners and end users in all sectors require from PET. Hear about new innovation-led opportunities and the most crucial technologies for the next five years and how to implement them. You'll find out what your competitors are considering and using. You'll also find out what new technologies can do to help you win new business and add value for existing customers.

Materials and equipment suppliers

This is a crucial opportunity to establish market demand for your product or technology. You'll hear directly from brand owners and converters about their needs and gain an essential insight into how to meet them today and in the future. You'll also hear an overview of the latest innovations from other technology companies and academics to help you assess potential partnerships. Most of all you'll get an unmissable chance to network with senior decision-makers from Europe's largest buyers and users of PET.

Exhibition and sponsorship opportunities

If your company supplies the PET packaging market don't miss this opportunity to reach your audience by taking advantage of the limited number of exhibition and sponsorship opportunities available. Sponsorship of the conference will help you realise your marketing objectives and strengthen your company's position as a leading provider in this industry. For more details, please contact Caroline Potapa on +44 (0)1372 802101, carolinep@pira.co.uk

Your event organiser

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plastic packaging innovation news



Unique and exclusive news and intelligence

plastic packaging innovation news, Pira's latest fortnightly newsletter, delivers exclusive intelligence on what's happening in the world of plastics packaging. Our team of researchers and writers report on:

- Developments from inside all major government-funded nano research projects and nano start-ups with technology relevant to plastics packaging
- Important new developments in active and intelligent packaging technologies
- Latest news on biomaterials and how they perform in relation to standard plastics
- Product and technology trials and adoption by brand owners or packaging converters
- Business performance of new polymers and killer applications
- Legislative, regulatory and government issues affecting plastics in packaging

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