

# Basell

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## The global network effect

Every organisation should aspire to be more than the sum of its parts, and for a company with Basell's worldwide presence the opportunities to do this are numerous.

This issue of Basell Dimensions contains some particularly good examples of the way in which the company creates value for its customers by bringing together ideas and resources from widely dispersed parts of its global organisation.

Samsung manufacturing in South Korea was able to develop ground-breaking polypropylene applications for its refrigerator models, thanks to a new grade created through close collaboration between Basell's joint-venture company in Korea and its R&D centres in Europe

(page 10) – applying global knowledge resources to a local application need.

Our article about the services that support the licensing of Basell's process technologies throughout the world (page 4-5) reveals the important role played by Basell plant staff who join start-up teams that help commission new facilities – a two-way transfer of ideas and experience between organisations often based in different continents.

Opportunities for such technical and cultural cross-fertilisation are certain to increase with the continuing growth of Basell's activities in Asian markets.

News of these developments include the launch of the Chinese-language version

of Basell's website (page 13), the successful adoption of Basell materials in China's vast TPO roofing market, (page 8) and the launch of the company's pipe business in the Asian market through the Pipe @China Symposium (page 13).

We hope you will find this issue of Basell Dimensions interesting and informative reading.

Patricia Vangheluwe

Chief Editor, Basell Dimensions

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## Technology Services add value

What lies behind the success that Basell technologies have achieved in both established and emerging markets? We asked Par Singh, senior vice-president for Basell Technology Services.



Par Singh, senior vice-president  
Basell Technology Services.

Specifically, what kind of support does Technology Services provide? Typically, our support begins with a 'process design conference' that brings together all Basell and customer staff involved in the project to produce a detailed engineering blueprint – the Project Design Package – that addresses the business objectives of the customer.

This provides the input to the specialist engineering contractor with experience in Basell technologies and the detailed engineering contractor, usually engaged locally.

What about training?

A lot of the success of a new project depends upon effectively transferring technical skills to those who will be responsible for the day-to-day running of the plant.

This is a process which begins several months before start-up, with the transfer of the local operator team to one of our training centres in Europe or the USA.

We give them intensive training in plant operations both in working facilities, as well as using computer-aided dynamic process simulators which are capable of reproducing the behaviour of the plant in its four main operational modes: start-up, steady state operation, grade-change and shutdown.

What is Basell's role in the start-up of a new plant?

The Basell start-up team moves to the new plant in good time to prepare it for operation.

At any point in time we can mobilize up to seven or eight different start-up teams to serve overlapping projects.

In 2006 we brought a record number of twelve plants on stream and we are planning to commission another 45 over the next four years.

How is a start-up team composed?

An important feature of these teams is that they are made up of Basell person-

Why do people choose Basell technologies?

The success of these technologies is undoubtedly due to their superior technical performance. But equally important is the support Basell can provide to its licensees at every stage of the project. It's also important that this support is carefully tailored to the experience and the market conditions of each customer, which can vary considerably.

In what ways?

Well, many of our new customers are new players in the polyolefins market. They know their local markets very well, but they need our guidance in planning and implementing the technical parts of the project.

On the other hand, experienced customers who work in established markets need less basic technical support and more help with developing niche or speciality products. It is important to be able to address the needs of both types of customers.



nel (eight to ten for each project) on secondment from our manufacturing operations.

This has two advantages – firstly it brings the experience of day-to-day production to the commissioning of the plant. Secondly, our staff take back with them experience of the latest refinements of the process technology when they return to their original posts.

There's also an important personal dimension to the work we do. The experience of working together so closely on the project often creates long-term friendships between Basell staff and their local counterparts that continue long after the commissioning phase is over.



How long does the start-up phase last?

The start-up team usually spends around two-three months at the new plant, until it is performing at the level stipulated in the licensing agreement.

During this time the plant will also be visited by another Basell team of HSE experts who will carry out a safety audit to ensure that it conforms to the safety design criteria.

What happens after the plant is up and running?

Basell continues to provide service and support. We have technical service

agreements with each customer that extend support after commissioning is complete.

This creates an ongoing relationship that provides access to technical assistance off and on-site, news of technical improvements, further training if needed, trial runs of new product, etc.

How important is the maintenance of a long-term relationship with a customer? I think the quality of Basell's ongoing service and support is reflected in the amount of repeat business we do.

Around half of the new licenses we have granted in the last ten years have been with customers who are already using Basell technology. More than 90% of Basell first-time polypropylene licensees select the company's polypropylene processes again for new plant projects.

The fact that so many users come back to Basell when they want to increase capacity or build new plants is a good indicator of the level of satisfaction we have been able to create.



Basell *Spherizone* process plant in Brindisi, Italy. *Spherizone* is the latest generation Basell polypropylene technology.

## The Basell technology portfolio

Globally Basell process technologies continue to be used extensively by polyolefin producers, especially in fast-growing Asian markets as well as in locations with advantaged feedstock in the Middle East.

A significant proportion of world polyolefin capacity is now based on six key Basell technologies: *Spheripol*, *Spherizone* and *Metocene* for polypropylene, *Hostalen*, *Spherilene* and *Lupotech T* for polyethylene.

## Picasso and the art of fuel economy

Basell resins contribute to weight-savings and fuel efficiency in Citroën's new model Picasso.



Achieving fuel economy by reducing vehicle weight is an important goal for auto designers. In Citroën's new 'visio-space' model, the Grand C4 Picasso, Basell products have contributed to this process by allowing steel structures to be replaced by carefully tailored polypropylene materials.

Optimising the performance of these components required close collaboration among Basell's R&D centre, the PSA Peugeot Citroën designer, as well as converters Mollertech, in Orense and Mecaplast in Sesena.

The rear hood cover  
One of the most visible signs of this new approach is an innovative polypropylene panel that forms the rear portion of the hood.

As well as having its functional role, this component is also a prominent design feature and contributes to the model's perceived quality. The material supplied by Basell, therefore, had to satisfy a number of important aesthetic requirements.

The panel is closely integrated with the metal bodywork so that thermal expansion had to be maintained within strict

limits. "We carried out computer-based simulations of the expansion behaviour over a wide temperature range to ensure that no problems would arise," explained Basell's customer project manager, Mathieu Lecomte.

"Being non-painted, the surface finish of the panel had to meet very high aesthetic standards," said Claude Nicot, PSA's plastics materials specialist.

"To get a good finish in a relatively large moulding of this kind, the rheology of the material is critical," emphasised Mathieu. Basell supplied a resin with mould-flow characteristics that allowed Citroën to obtain the high-quality surface they were looking for.

The all-PP cowl vent grill  
Just behind the rear hood cover is an equally innovative component – the all-polypropylene cowl vent grill. The grill incorporates the supporting beam, which is usually a separate steel component.

"That required a high-rigidity, low creep material and we supplied a 40% glass fibre-filled polypropylene grade that gave the required performance," said Mathieu.

It also allows the whole assembly to be removed, making it much easier to get access to the areas below the grill for servicing.

Lightening the loading  
In the interior, the weight-savings approach continues. "All suppliers have been involved in the drive to reduce component weights," stressed Alain Chauvey, PSA's plastic materials and interior trims specialist. "The introduction of low density PP for the upper interior trim was essential to the weight reduction of the car."

The heat resistance and dimensional stability of the resin supplied by Basell allowed the talc loading to be reduced from 20% to 10%. The result was a lighter component and a significant improvement in scratch resistance.

"The Picasso was designed to be an innovative model, both in terms of design and environmental credentials," concluded Mathieu. "Basell resins have played a role in both areas and we look forward to taking this development even further in the future."

# Swiss pipeline benefits from *Hostalen* grade's flexibility

A waste-water piping installation in Switzerland highlights the performance and ease of handling of Basell's *Hostalen* materials.



Heavy rains sometimes proved too much for the small waste-water treatment plant in the Swiss village of Tuggen, and overflow from the plant often ended up in the nearby Linth canal, causing environmental and odor problems for the local communities.

The Tuggen municipal council concluded that the most effective solution would be to connect the village's waste water system by a pressurised pipeline to the modern treatment plant in the next valley – a distance of about 2.5 kilometres.

The 12-metre pipeline sections were produced by manufacturer Haka Gerodur AG of Benken, Switzerland using a PE 100 grade, *Hostalen* CRP 100 black, supplied by Basell.

## Challenging route

"The terrain presented a number of challenges," said Hansjoerg Nitz of Basell's Pipe and Sheet business unit. "The pipeline had to pass under the motorway, the river Linth and the

canal, so horizontal directional drilling had to be used for those sections."

"Along the rest of its length, the pipeline was laid in an open trench, but due to the uneven nature of the subsoil – including rocky outcrops – the route of the pipeline often had to be accommodated to the terrain."

"This meant that the flexibility of the pipe sections was a critical factor in the choice of the *Hostalen* grade," observed Hansjoerg, "particularly where the pipeline had to curve fairly sharply to pass through one of the horizontally drilled sections."

Within the drilled sections themselves Haka Gerodur used specially reinforced Gerofit pipes with an outer cladding of protective polypropylene.

## Easy handling

In the open-trench portions, the pipe sections were butt-welded together into longer sections before being laid in the trench. Here, the lightness and ease of handling of the PE 100 materials

were crucial to the speed and efficiency with which the project was completed.

The installation used 280-millimetre pipe sections, protected by a 400-millimetre conduit jacket, also moulded from *Hostalen* CRP 100 grade.

"This is a medium-pressure installation involving pressures of 10-16 bars," said Hansjoerg. "It was a good example of the kind of project where the ease of installation and corrosion resistance of *Hostalen* materials makes them the natural choice for a pipe job."

# TPO roofing takes off in China

TPO (Thermoplastic Polyolefins) materials for single ply roofing are increasingly being used in one of the world's largest roofing markets.

"The average flat roof in China starts to leak after just two years," said Umberto Credali, Basell's market development manager for *Catalloy* process resins innovation in Asia Pacific. "We learned this surprising fact at a trade event for the construction industry in Beijing last year. It indicates just how much potential demand there is in the Chinese market for reliable roofing materials like Basell TPOs."

An established approach  
Since their introduction into Europe and the USA over fifteen years ago, Basell's TPO materials have established themselves in single ply roofing membranes as tough, versatile materials, combining ease of installation with long service lives – even in climates with high UV exposure and extreme temperature ranges.

Environmental benefits  
Part of this success has also been due to awareness of the environmental benefits of TPO membranes. Unlike some other synthetic roofing materials

that require cross-linking and therefore can only be pigmented black, TPOs can be pigmented with any colour – even pure white. This significantly increases the building's reflectivity – reducing heat absorption and cutting air-conditioning bills.

The high flexibility of Basell TPO materials for single ply roofing applications also eliminates the need for plasticisers which can leach out of roofing membranes and cause local pollution (as well as compromising the mechanical properties of the membrane). TPO roofing membranes can also be recycled at any stage of their life-cycle, from manufacturing and installation, to their eventual replacement.

A traditional market  
Such economic and environmental benefits have led to widespread use of single ply roofing membranes using

Basell TPOs in western countries. In China, however, the roofing market (the largest in the world after the USA) is still dominated by traditional materials and other synthetic solutions.

"A lot of roofing in China still uses oxidised bitumen," said Umberto.

The last few years, however have seen the growing use of TPO materials for new buildings – often by overseas companies building production plants in China.

"It's significant that many of the first installations to use TPO roofing in China were buildings commissioned by western manufacturers, such as Mercedes Benz and General Motors.

They were aware of the benefits of TPOs for roofing in their home markets and specified the use of these materials for their new plants in China."

Membranes for these projects have generally been supplied by international manufacturers using Basell materials. Local supply of TPO membranes in China is still at an early stage.

#### Raising awareness

"We've had to use a different approach in China to the one adopted in Europe and the US," explained Umberto. "Here there are no large manufacturers and the market is much more fragmented. We are therefore working to raise awareness of the advantages of Basell TPOs used in roofing materials with end-users and specifiers like architects, construction companies and consultants."

"In this way we hope to create a demand for membranes produced using TPOs that can be satisfied by both international and Asian manufacturers. Some local membrane manufacturers have already started using our TPOs: one large project is now the installation of a 40,000 square metre roof for a local steel plant in Tai Yuan city."

### Tai Yuan steel factory

Size 40,000 sq. m.  
Roof type Single-ply  
Supplier Wanjia



### Sha Tin race course retractable roof

Size 5,510 sq. m.  
Roof type Single-ply  
Supplier Flag SpA



### Jiangsu Changzhou Vallourec & Mannesman factory

Size 23,000 sq. m.  
Roof type Single-ply  
Supplier Flag SpA



### Shanghai GM factory extension

Size 23,000 sq. m.  
Roof type Single-ply  
Supplier Flag SpA



### TPOs from *Catalloy* technology

Basell's TPO materials for roofing applications are made using the advanced *Catalloy* process technology.

They are alloys – not blends – of polypropylene and EP rubber. Unlike blending, alloying allows extremely high levels of rubber to be dispersed evenly throughout the matrix, producing materials that have outstanding flexibility and toughness – as well as being heat weldable. The flexibility of TPO materials also completely eliminates the need for plasticisers.

Basell TPO materials used in roofing applications are available in the following grades:

**Hifax** CA 10 A, **Hifax** CA 212 A,  
**Hifax** CA 60 A, **Softell** CA 02 A

More details at [www.basell.com](http://www.basell.com)



# Samsung pioneers high gloss PP in refrigerator visible parts

The Korean appliance manufacturer has achieved cost savings through ABS replacement using a new polypropylene grade supplied by PolyMirae, Basell's regional joint venture.



"We believe this is one of the first times that high gloss polypropylene has been systematically used in visible parts for refrigerator applications," commented G.Y. Ha, technology support manager at Basell joint-venture PolyMirae in South Korea.

Three ranges of refrigerators manufactured in Korea by Samsung's appliances division now fit a total of 23 different polypropylene components, ranging from ice trays to vegetable baskets and shelf units.

#### Cost and energy savings

"The move to PP represents significant cost savings for Samsung," observed Mr Ha. "In addition, the lower resin costs compared with styrenic materials – ABS and HIPS – PP's low density means that manufacturers can get up to 14% more components per kilo of resin compared with competing materials. The manufacturing process is also simplified because polypropylene resins do not require pre-drying."

The shift to polypropylene is part of Samsung's strategic drive to increase the competitiveness of their white-goods products. A number of polypropylene suppliers were asked to provide candidate materials for the refrigerator applications.

"The specification was fairly stringent," said Mr Ha. "They were looking for high stiffness and impact resistance (at low temperatures, of course) coupled with excellent gloss and scratch resistance. Colour matching was another requirement."

#### Winning candidate

Working together with the Basell R&D group, PolyMirae was able to develop a copolymer reactor grade meeting Samsung's specific application requirements. The resulting resin (commercialised as *Moplen* EP649N) was produced in one of PolyMirae's *Spheripol* process plants in Korea. It was evaluated by Samsung and found to meet or exceed all of their requirements. The

resin is fully compliant with both USA and EU food contact regulations.

#### International resources

"This is a good example of the excellent cooperation that occurs between Basell's international R&D organisation and the JVs working in specific markets", commented Y.K. Sung, PP business director. "By tailoring the international portfolio to local market requirements, PolyMirae was able to bring a unique set of resources and expertise to the project."

Basell's E&E business is an innovative sector. Thanks to its global E&E strategy and its cooperation with JVs, Basell is able to address the needs of dedicated projects in cooperation with its key accounts worldwide. The company can supply the complete range of polyolefin grades, including compounded products for high-tech structural components as well as high-performance polypropylene-based resins which also meet FDA/food contact approvals.

Samsung is continuing to explore the potential of new-generation polypropylene materials in its white-goods portfolio. PolyMirae is also supplying *Moplen EP649N* for the brush cover and panels of a vacuum cleaner manufactured by Samsung for the US market. Meanwhile, moulding trials for washing machine tops using the same grade have shown very promising results.

#### Overlapping spectrum

"This project shows that the property spectrum of the latest generation of polypropylene materials is beginning to have significant overlap with that of competing materials," concluded Mr Sung. "We expect the cost advantages of polyolefins to continue driving their adoption in the appliances sector. Already other manufacturers are expressing interest in utilising this grade for potential inter-material replacement projects."



PolyMirae – a joint venture between Basell and Daelim – is a leading Asian manufacturer and marketer of polypropylene.

It has four production lines using *Spheripol* technology located in Yeosu, Korea with an annual capacity of over 600 kt.

PolyMirae works together with Basell's technology team in the development of its products and has a broad customer base across Asia, spanning sectors from packaging and automotive to consumer goods and textiles.



## Additive-free grades in medical film packaging

Two new high-purity resins join Basell's *Purell* family of specialty medical products.

Since their introduction several years ago, Basell's *Purell* family of specialty resins used in medical and pharmaceutical applications has successfully addressed the special needs of medical equipment and pharmaceutical packaging manufacturers.

#### Purity and continuity

As well as having the high degree of purity required for these critical applications, *Purell* materials comply with European and North American regulatory protocols – facilitating the approval process for customers.

At the same time, Basell provides continuity of formulation and supply for periods longer than the usual polyolefin product cycle, allowing manufacturers optimum time for the long product validation and deployment processes typical in the medical and pharmaceutical sectors.

The latest additions to the *Purell* resins family are two new LDPE grades – *Purell* PE 2420F and *Purell* PE 3020H – specially designed for the production of films used in the packaging of syringes and other medical equipment.

#### Zero contamination

"These new grades are completely additive-free," emphasised Hans-Jürgen Bach, Basell's application development manager. "This completely eliminates

concerns about contamination of the packaging contents by additives migrating out of the film."

"The challenge was to achieve the required level of performance and processability directly through the polymerisation process, without resorting to additive packages," Hans-Jürgen continued. "These resins are Basell's first PE film products for the medical sector and they represent a significant step forward."

#### Compliance certification

Like the other materials in the *Purell* resins family, the two new grades are accompanied by a medical protocol that includes compliance certification for the European Medical Device Directive (MDD) and European and US pharmacopoeia and drug master file (DMF) listing.

Basell also gives customers in principle at least 24 months advance notice of any changes to the formulation that might become necessary.

"We expect to see steady growth in film packaging in the medical sector over the next few years," said Mike Freudenstein, Basell's PE marketing manager. "These new grades will allow customers to develop products for this market with complete confidence in their compliance and continuity."

## Metocene resins put shine in Italian design

As well as their aesthetic qualities, the polypropylene resins Basell manufactures with metallocene catalysts are delivering productivity benefits to manufacturers.



The Italian company EURO3PLAST creates designer pots used indoors for plants and flowers and exports them worldwide.

The company's newest collection of designer pots is called MITU. The attractive metallic sheen of these injection-moulded pots is achieved through the use of one of Basell's new metallocene-based *Metocene* random copolymers. The high transparency of the base *Metocene* resin contributes significantly to the pots' brilliant finish.

The cleanliness of the Basell material has also been an advantage in this application. "The moulds that EURO3-PLAST are using need to be kept very clean to produce the right gloss effect," said Marco Bellinazzi, Basell's technical manager for *Metocene* products. "With their extremely low levels of volatiles, the use of *Metocene* resins means less frequent cleaning operations."

Furthermore, customers benefit from reduced cycle times when they switch to a *Metocene* resin as a result

of improved flow characteristics and reduced melt temperatures.

This kind of designer product is a good example of the value that *Metocene* resins can add to high-end polyolefins applications. Their mechanical toughness, superior aesthetics and processability make them a valuable asset to designers in the household and consumer sectors.



The Dodge Nitro structural duct application was the Interiors category winner in the 36<sup>th</sup> annual Society of Plastics Engineers (SPE) Innovation Awards program.

The Dodge Nitro is the first application produced using In Line Compounding Injection Molding (IMC) material technology for an instrument panel (I.P.) structural duct assembly. St. Gobain Vetrotex long glass (continuous glass roving) product was used with Basell's *Pro-fax* SG853 high flow resin in the Nitro's structural duct assembly, where *Pro-fax* SG853 was compounded with long glass fiber at the press to achieve engineering resin performance. The I.P. is all olefinic; including the structural

## Basell resins for new generation instrument panels

Basell's *Hostacom* and *Pro-fax* advanced TPO resins are being used by Intertec Systems to produce the instrument panels for the recently introduced Lincoln MKX, Ford Edge and Dodge Nitro.

duct, base panel retainer and I.P. components. Basell *Hostacom* TYC727N, a high flow, 18% talc filled TPO, is used for the molded-in-color I.P. retainer and components.

The Lincoln MKX I.P. includes a Reaction Injection Molded (RIM) urethane skin over the *Hostacom* TYC727N resin substrate in the seamless Passenger Air Bag (PAB) area, which provides superb quality and craftsmanship at a lower production cost. The *Hostacom* substrate is

molded-in-color and flame treated for urethane adhesion. After the two component urethane system is injected, close molded, cured and completed, the I.P. is laser scored through the substrate and RIM skin prior to assembly.

The Ford Edge I.P. utilizes the *Hostacom* TYC727N molded-in-color substrate and features a gas channel along the windshield edge that is molded-in-color and painted in the center portion for aesthetic enhancement. The PAB system is discrete.

# Basell launches Chinese-language website

The information and services at Basell.com are now available to Chinese-speaking visitors

"Our Asian business has grown to the point that a Chinese-language website has become essential to reaching our existing and potential customers in this market," said Kathy Chan, who is responsible for Basell corporate communications in the Asia Pacific region.

Using the new facility, Chinese-speaking visitors can access information about the company and its worldwide locations, as well as details on products, markets and applications from automotive and appliances to packaging and pipes.



My Basell

"Visitors can register on the new site and take advantage of a number of customised services, such as the product watch list and personalised notifications," Kathy continued. "They can also contact Basell Chinese-speaking personnel by e-mail."

The official launch of the Chinese website took place at China's major trade event for the plastics industry, ChinaPlas 2007, held at Guangzhou, May 20<sup>th</sup>-24<sup>th</sup>.

# Basell launches pipe business in China

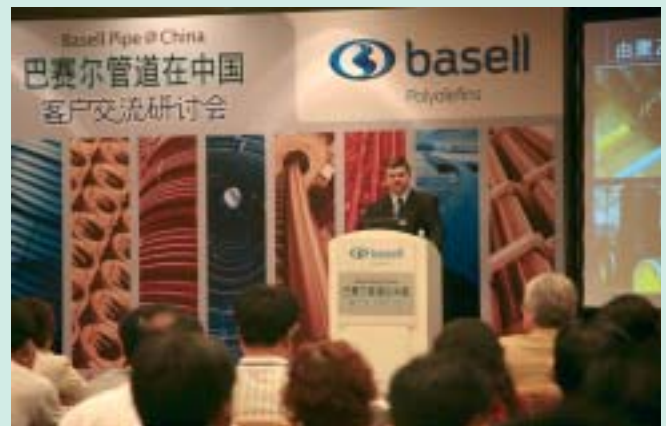
The Basell Pipe@China Symposium, held at Hainan in March, was the venue for the company's launch of its pipe business in China.



Basell's dedicated sales & marketing team welcomed over 80 guests from major local pipe producers and associations, regulatory bodies and utility companies.

Among the guests were Mr. Li Yongwu, member of the China political consultation council and president of the China Petroleum & Chemicals Industry Association, and Mr. Tan Fangfeng, vice-president of the China Plastics Processing Industry Association.

Welcoming the guests at the symposium were Richard Roudeix, vice-president of Basell's Pipe & Sheet business;



Ulrich Schulte, head of application and technical service for Pipe and Sheet; Michael Vogt, business development manager for Asia Pacific; C. H. Mak, China sales manager, and sales executives Sandro Li, Kenyon Liu and Leo Xia.

"Basell and its predecessors have more than 50 years of experience producing and supplying *Hostalen* HDPE grades to customers in the pipe business," said Richard Roudeix. "As a developer and innovator of resins widely used in pipe applications, Basell is well-placed to serve the needs of this growing industry."

# E-billing saves time and trees

Basell introduces electronic invoicing on its European markets.

E-billing – the delivery of invoices in electronic format – has been permitted in the EU since the beginning of 2004. But a legal invoice is not simply an electronic copy of the paper document. A PDF file, for example is not a valid replacement for a printed original.

## Authenticity and integrity

The electronic version must be generated in a way that guarantees two key properties: its authenticity – that it does in fact come from the organisation issuing it – and its integrity – that the contents of the document has not been modified since it was issued. This guarantee takes the form of an electronic signature that is appended to the invoice.



## Savings

E-billing has a number of benefits for both sender and receiver. Apart from saving paper, postage costs and labour, it also allows customers to receive their invoices sooner, giving more time to sort out any discrepancies that may exist.

Customers using modern ERP systems can also arrange for electronic invoice data to enter directly into their accounting systems, without the need for manual entry.

Basell is in the process of introducing e-billing in its European organisation in close cooperation between Sales and Finance. Following a pilot project in the UK at the end of last year, the system is now being extended to Germany, Scandinavia and the Benelux countries. Extension to the rest of the western European countries is planned for the end of the second quarter.

Nahdia Abadi, in charge of Basell's e-billing initiative, explained: "To ensure that the system complies with legal requirements we are working with an experienced e-invoicing service provider – Certipost. The Certipost service has been audited by Price Waterhouse Coopers and a certificate of compliance has been issued for each country."

## How does the system work?

Each customer has a secure Certipost mailbox where their invoices are delivered," explained Nahdia. "When they receive an e-mail informing them that a new invoice has arrived, they log on to the mailbox and download the invoice in PDF format.

Alternatively, if they have an ERP system, they can import the invoice in a structured data format called XML which enters the details directly into the accounting application. Customers with fully automated EDI systems can arrange for their platform to communicate with the Certipost mailbox automatically at regular intervals, downloading and entering any invoices that may be there. In this last case, the process is completely automatic.

## Archiving

The Certipost mailbox also serves as an archive where invoices can be located and displayed, together with their certificates. Alternatively, for an extra charge, Certipost can provide a CD-ROM with invoices and certificates for in-house archiving.

To help customers switch over to the new system, the last three invoices before changeover will be sent in both paper and electronic format.

## Choice

But are all customers obliged to go over to e-billing? "If a customer doesn't want to adopt the new system, Basell will continue to invoice them in the old way," said Marcus Demgenski, head of Basell's Shared Service Centre. "But we feel that e-billing is a real step forward in streamlining business processes and we're confident that, once they have seen how it works, our customers will appreciate the advantages of the new system."

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## Venezuela plant will use *Lupotech T* technology

A new LDPE plant to be built by C.A. Polinter in Maracaibo, Venezuela will be based on Basell's *Lupotech T* technology.

C.A. Polinter is an affiliate of Petroquímica de Venezuela, S.A., Pequiven, and other private shareholders.

The plant will have a capacity of 300 kt per year and is expected to begin operations in 2011.

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## *Spheripol* technology for new China plant

Liaoning Huajin Chemical Corporation has chosen Basell's *Spheripol* technology for a new polypropylene plant to be sited in Liaoning province in north-eastern China.

The plant will have an initial capacity of 250 kt per year and is due to come on stream in 2009.

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## New *Hostalen* pipe grade boosts crack resistance

Basell has produced a new version of its widely used PE 100 grade which allows customers to produce pressure piping with enhanced resistance to slow crack propagation.

The grade – known as *Hostalen* CRP 100 RESIST CR black – has shown a stress cracking resistance exceeding 3300h\* and meets the DVGW directive GW 323 for gas and drinking water pipes.

\*FNCT (full notch creep test) at 4.0 Mpa, 2% Arcopal N, 80°C.

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## *Spheripol* technology for PP plant in Egypt

A new 350 kt per year polypropylene plant to be sited at Port Said in Egypt will use Basell's *Spheripol* technology.

The plant, to be built by Egyptian Propylene and Polypropylene Company (EPPC), is expected to begin operations in 2009.

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## Expanded PP capacity at Bayport, Texas

The PP capacity at Basell's Bayport, Texas site will be increased by the start-up of a *Spheripol* process plant that has been inactive since 2001. Following refurbishing and upgrading, the 220 kt per year plant will begin operations in 2008. Basell currently operates two *Spheripol* process plants at the Bayport site, with a combined capacity of 530 kt. Both plants are operating at full capacity.

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## New Portugal PP plant will use *Spherizone* technology

Basell's *Spherizone* process technology has been chosen by Repsol Polimeros, Lda. for a new 300 kt per year polypropylene plant it plans to build in Sines, Portugal. The plant is scheduled to enter production in 2010.

This is the tenth plant to adopt the innovative *Spherizone* technology since Basell began licensing it in 2004.

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## Basell acquires cracker in Germany

Basell has acquired a cracker facility at the Münchsmünster petrochemical site in Germany from ROG, a joint venture between Deutsche BP and PdVSA, the Venezuelan state-owned oil company.

The cracker will supply feedstock to Basell's new 120 kt per year HDPE plant located at the same site. The plant, which will use *Hostalen* Advanced Cascade Process technology, is due to begin production in 2009.

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## Basell grants 50<sup>th</sup> *Lupotech T* license

A new LDPE plant to be built in Qatar by Qatar Petrochemical Co. Ltd is the fiftieth license granted by Basell for the use of its *Lupotech T* technology.

Located at Mesaieed in Qatar, the 250 kt per year plant is expected to come on stream in 2011.

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