The plastics processing industry in Europe has seen an important increase this last decade, due to the expansion of packaging products for the building and automotive industry, which makes up two thirds of its market. While the economy slackens and new production areas compete with each other, this industry has now levelled off. To maintain its competitiveness, the European plastics processing industry develops partnerships in innovation and structures its industry in clusters. Specially, the research on composite materials offers a competitive advantage over other materials. France, second rank in Europe for alteration, intensifies its structures to gain strength over the international market. Promotion, innovation and research networks, in this field, reinforce this effort.

European plastics processing faces competition

As a basic processing industry, the European plastics processing industry has a 140 billion euro turnover. Packaging, construction and the automotive industry make up two thirds of its outlets. Behind the United States, Europe ranks second in worldwide production. It includes 39,000 companies, mainly SMEs, and employs more than one million workers, which means 4.5% of the labor force and 4% of the European manufacturing value added (not including the food industry).

In the year 2002 in Europe, this activity stabilizes : labour force stagnation in France and a slight decline in some countries, Germany among others.

The trade balance of the European countries still remains favourable. In 2002, the cover rate for imports/exports outside the European Union is greatly positive (152%). Nevertheless, the European Union has lost power in the world plastics trade, in favour of new areas. Between 1990 and 2001, the European market shares for plastics global exports fell from 62% to 48%. Meanwhile, plastic exports in Asian countries, particularly China, shot up : from 12% in 1990, the export market shares reached 21% in 2001, mainly owing to packaging and household appliances. European groups contribute...
to these changes, by getting established in these new growth areas.

Plastic, first packaging material in Europe

Plastics have become the first packaging material in Europe with 38% of the market shares. It consumes 12 million tons of basic plastic per year and feeds 35% of the plastics processing industry outlets. France is now first in Europe, just before Germany. The food industry is the biggest client of the plastic packaging market (65%).

The European plastic packaging is divided into small production units (averaging less than 40 people per company). It employs more than 200,000. It deals with customers who are more and more concentrated (packagers, distributors and others) and who sometimes integrate a plastic packaging activity. At the same time, some big worldwide packaging firms (paper, cardboard, glass) also invest into plastics processing.

Plastic packaging and conditioning firms have moved closer geographically speaking. This involves a drop in transportation and logistic expenses. This is the reason why some packaging units have settled near their own customers. In the center of France for example, Cosmétique Vallée has moved closer to packaging and perfume producers.

The plastic transformers policy is to systematically use lighter products to reduce energy and raw materials. For the last 10 years, a polystyrene box has decreased in weight by 40% and cling wrap by 30%. The plastics transformers have also invested into re-use and recycling packaging.

The building industry uses more and more plastics

Second market of the whole plastic market, plastics processing for construction represents more than 20% of the French market. This increase is due to the expansion in the use of rigid PVC woodwork, making fittings for pipes, pipes-coupling, moulded sections, cables and floors. PVC is the plastic material the most used in Western Europe.

In this field, plastic consumption is expected to rise from 6 million nowadays up to 8 million tons in 2010. Moreover, there are some good market opportunities such as water conveyance replacement. In Germany, the public services (Länder and boroughs) are important applicants. In France, the use of plastics for construction has not yet developed as much as in the neighbouring Germany.

Concerning the rigid PVC woodwork, some SMEs in local markets, gather together to build up national distribution networks and compete with groups who make profiles or other materials.

In Europe, the building trade represents 30% of the composite line, including plastics and other reinforcement substances. Reinforced glass fibre plastics will have an increasing use in the building industry, in particular in main structure enabling new architectural shapes.

Automotive : from product to method

France and Germany are both at the head of the plastics processing industry for cars (more than 10% of the outlet). At the very beginning, it was used for bodywork ; then it substituted other materials in the engine equipment, and it is expected to go further in the lower parts of the frame.

Nowadays, the plastics parts of a car weigh more than 10% when it was 4% in 1985 (about 120 kilos per car). It makes the design development easier. The research programs put a stress on security and shock resistance.

There are very large industrial firms that live together with independent companies. At European level, a full and complex logical scheme connects several businesses and equipment manufacturers. In this way, Plastic Omnium set up a company with 2 German equipment manufacturers - Hella (lights, electronics) and Behr (engine cooling) - to provide the carmakers with frontal car parts. Large plastics firms cooperate with car manufacturers having their own assembly lines equipment on the car manufacturing sites. The sector is also set up with smaller firms building up a network of specialized subcontractors.

New markets

Innovating products are developing in the fields of medical care, sports and recreation. Some rising products use technological plastics with high value added. For example, in the medical care industry, they use bio-assimilating plastic prosthesis, which perform better than other materials.

Nevertheless, the plastics processing companies are not alone on the attractive markets. Some of their customers run integrated production units such as, in France, shipbuilding and pleasure-boat industries.

Composite materials – innovation and development

Facing competition, the European plastic manufacturers must develop innovative products. R&D programs promote new manufacturing processes (faster tools, digital simulation) or new products such as “active packs” (which make long living goods) or “clever packs” (a micro chip informs the customer about the freshness of the product).

New systems meant to compete with traditional materials need an increasing use of basic polymeric composites. In fast-expansion, these composite materials, combining plastic and fibre reinforcements in glass or carbon, account for more than 5% of plastics processing. The global output might reach 10 million tons in 2006, as opposed to 7 million tons in 2000. The French composite output accounts for 15% of European production (ranking third behind Germany and Italy). Innovation seems necessary to meet the
Making European clusters

Beyond the geographic concentration of the European plastics processing industry in large areas (Ruhr and Bade-Württemberg, representing 45% of the whole German plastics industry), clusters have also developed.

In France, the Oyonnax region plays a major role in the plastics processing industry. It has evolved towards the car manufacturing industry, which represents half of its business. This cluster helps SMEs to be innovative by joining technical centres to monitor technological development. Local suppliers of equipment, moulders for example help to improve the competitiveness of the region.

The plastic transformer’s geographical concentration reinforce their influence in the raw material price negotiations. They can also take advantage of related industrial activities; Emilia, Romagna, for example, is an Italian packaging industrial region, which regroups plastics processing industries and the manufacturing of machines for health-beauty and food packaging.

Having in the surroundings a close precision mechanic firm is also a big asset. In Spain, the Saragossa region is a cluster for computer simulation, moulds and tools.

France, the second converter in Europe

In Europe, Germany is in the first place and accounts for a third of the whole of European Union plastics processing. France ranks second in Europe and fourth in the world. The United Kingdom and Italy are not far behind. For each of these three countries, their production is less than that of the German’s one by half.

The French plastics processing industry accounts for 17% of the European turnover, i.e. 25.6 billion euro. It employs more than 160,000 people. The production has been continuously increasing over the past 10 years, in France as in Europe. Since 1995, the turnover has increased by 10% per year (in current value); this result is clearly better than the one of the whole European industries.

The labour force is young (more than 50% are between 25 and 39); the in house training system helps for technological evolution, especially on composite materials.

Enlarging EU

With nearly 10 billion euro turnover in 2001, new EU members produce 7.7% of the European Union plastics processing industry. Their production is estimated to 2.8 million tonnes in 2002 and should improve significantly in the future.

In this area, the plastic demand is connected to main growing markets. In the packaging industry, standardized European packages are mainly required by foreign group branches in the food industry and large scale retail trade. Nowadays, for example, polish people use less than half the packaging products used on average by European consumers. The automotive industry production is predicting to double in 2010 (2.8 million private cars against 1.3 million in 2002). In the construction industry, new European members take advantage of European funds, for infrastructure improvements (drinkable water system) or real estate to be modernized.

Mainly composed of small-sized SMEs, this industry has already drawn benefits from foreign investments, mostly German. The new members trade balance is very negative in favour of EU. Poland, which is the main converter country, shows a 1.8 billion euro loss in 2001. The French trade balance is highly favourable with 210% coverage.

However, French plastics manufacturers affiliates are relatively few, and they are mainly in the automotive plastics industry. Nevertheless, new partnerships are started, especially in vocational training, in Slovakia for example where the French “savoir-faire” is well appreciated.

Plastics processing in new EU states

(Turnover value)

<table>
<thead>
<tr>
<th>Country</th>
<th>Percentage</th>
</tr>
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<tbody>
<tr>
<td>Poland</td>
<td>45%</td>
</tr>
<tr>
<td>Czech Republic</td>
<td>21%</td>
</tr>
<tr>
<td>Hungary</td>
<td>14%</td>
</tr>
<tr>
<td>Others</td>
<td>20%</td>
</tr>
</tbody>
</table>

* 9.8 billion euro

Sources: Eurostat, Dree, 2001

Most of the companies in this field are small firms. This is a handicap for globalisation. More than 4 industries out of 5 employ less than 50 people (the average French being 37, and 50 in Germany). However, as in the whole European Union, concentration keeps going. French firms employing more than 250 people now represent 45% of the French plastic industry turnover.

The French owned plastics processing firms are highly performing on some packaging products (stoppers and over tops) and on plastic spare parts for the automotive and aeronautical industry. To improve competitiveness, the plastic manufacturers keep innovating and developing to make more sophisticated processing products and services. Some companies, suffering from their small size, rely on their speed on small production; others combine their forces and network together. In 2001, a third of them declared being process innovative compared to 23% in the manufacturing industry.

The plastics processing industry refers to the entire digit 25.2 of the polymer tailoring Naf (French products classification)

Main products are:

- Semi-finished goods: plates, sheets, plastic films, tubes, pipes, profiles (Naf 252A – the most capital-intensive sector)
- Intermediary goods: packages (Naf 252C), building products (Naf 252E) various items (school, offices, crockery, household Naf 252G) and technical parts destined for the automotive industry in 60% (Naf 252H).
Foreign presence is strengthening

The foreign investment in plastics processing is getting stronger. In January 2001, foreign subsidiaries account for 40% of the industry turnover and more than 50% of exports. Recently, Alcan, a Canadian group, took over Pechiney's activity of plastic wrapping.

Foreign implantation is much stronger in intermediary goods and packaging than in any other plastics branches. The United States is the first investor before Germany, and targets its investments: 45% of turnover from American subsidiaries comes from technical parts.

Globalisation, namely subsidiaries of foreign groups in France and subsidiaries of French groups abroad, does not have a negative impact on the plastics processing products trade balance. The proof is that intra-group exchanges whose main contribution is due to foreign subsidiaries in France (75%) are favourable. However, these intra-group exchanges do not constitute the major part of their exports, due mostly to third party trade (extra-group customers).

The growing opening of the French plastics processing

France is the world’s number five plastics processing exporter. All plastic manufacturers, settled in France, keep up a growth strategy on foreign markets. Their export rate climbed from 19.2% in 1996 to 23.3% in 2002, but is far behind Germany (32%). In 2002, the trade balance outside the European Union became positive, which is a sign of development.

Nevertheless, and despite the strong growth in French plastics, the exchange trade of plastics outside France runs a loss deficit. In 2002, it was about 1.5 billion euro with half for intermediary products (sheets, profiles, sections, films, ...).

One of the reasons of this deficit is structural: The French manufacturing industry has several important side activities such as perfumery, food processing, cosmetics, or the automotive industry. The plastics processing markets are not dedicated directly to exports but are integrated into packaging or equipments meant to be exported. Although it does not appear as a large export industry, the plastics processing industry contributes in an important way to French industrial exports. Furthermore, the international development in the French plastics industry means that plastic parts manufacturers settle near their contractors. In 2002, there were more than 200 French plastic groups affiliates abroad. The European Union ranks first (44%) just before the NAFTA (25%). In the European Union, Germany, Spain and the United Kingdom count for 85% of the affiliates. Recently, foreign investment has increased in the new members states and in the North African countries.