EU MARKET SURVEY 2003

PERSONAL PROTECTIVE EQUIPMENT

CENTRE FOR THE PROMOTION OF IMPORTS FROM DEVELOPING COUNTRIES

EU MARKET SURVEY

PERSONAL PROTECTIVE EQUIPMENT

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De Vries Nederland BV

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REPORT SUMMARY

This EU Market Survey serves as a basis for further market research: after you have read the survey it is important to further research your target markets, sales channels and potential customers.
Market research depends on secondary data (data that have been compiled and published earlier) and primary data (information that you collect yourself). This EU Market Survey is an example of secondary data.
Primary data are needed when secondary data fall short of your needs, for example when researching your specific type of consumer about the acceptance of your specific product. Sources of information are, among others, (statistical) databanks, newspapers and magazines, market reports, (annual) reports from branch associations, but also products or catalogues from your competitors, and conversations with suppliers, specialists, colleagues and even competitors.
After you received/collected your information you should analyse it. In order to judge the attractiveness of the market, sales channel or customer you should use/develop a classification or score system.
For more detailed information on market research, reference is made to CBI's Export Planner (2000). A fairly complete overview on packaging, environmental aspects etc. is published in CBI's Access Guide. These sources of information are also available on the CBI web site.
It should be noted that data on personal protective equipment (PPE) are notoriously difficult to obtain, particularly those relating to consumption and production.

Products under review
PPE can be divided according to their specific protective functions, like: full-body protection (workwear, uniforms and protective clothing); head protection (helmets and headgear); eye and face protection (protective glasses, goggles, eye or face shields); hearing protection (ear plugs and ear muffs); air purification (breathing protection from simple dust mask to full-face masks); hand, arm and elbow protection (variety of gloves, mittens and mitts in different materials and providing various levels of protection); foot and leg protection (safety shoes and boots) and descender devices such as fall protection (full-body harnesses, lanyards, anchors, carabiners etc.). Safety nets do not come under the scope of the European Council Directive.
It should be noted that official statistics do not register all the products mentioned. For that reason, trade statistics in this survey include the following PPE categories: workwear, protective footwear, safety headgear, protective gloves, protective glasses and breathing appliances.

Market size
The market for PPE in the EU is estimated to have been almost € 6.9 billion in 2002 although it does not include products like jeans etc. The market for traditional workwear and uniforms declined in the period 2000-2002 in favour of more specialist protective clothing, however, the market for other (than clothing) protective equipment increased steadily in the same period.
Total expenditure per employee varied from € 55 for users of traditional workwear to € 530 for users of one or more PPE products (respectively € 54 and € 505 in 2001) mainly caused by an increased demand of 2% for protective equipment during the period 2001-2002.
Occupational safety and environmental protection are of importance not just from an ethical, but increasingly also a commercial viewpoint. Governmental legislation resulted in a further increasing consciousness and, consequently, implementation of safety in working circumstances and concerns a broad range of protective products besides clothing, i.e. also other safety products, from helmet to safety shoe.
Germany remained the most important market for PPE within the EU with a market share of 27 percent, followed by UK (19%), France (16%), Italy (12%), Spain (7%) and The Netherlands (5%). There is a strong variation in levels of usage and styling of PPE across the EU member states.
The market for workwear will stabilise in the coming years in terms of volume and will slightly increase in terms of value, which indicates a small growth in prices. Demand for protective clothing market (excluding traditional workwear and uniforms) will increase more significantly (4.7%), encouraged by technical innovations and usage of specialised fabrics. The total PPE market is estimated to grow by 3 percent annually in the coming five years.

Production
Production of workwear and protective clothing decreased in almost all EU countries in the period 1997-2001. The strongest falls were in the UK, Ireland, Germany and France, whereas Italy increased its production. The UK has been the leading producer of workwear and protective clothing in the EU since 1994, however, its dominating role is diminishing.
The restructuring policy of many manufacturing companies in the EU during the last two decades caused, among other factors, by the high price of manufacturing in most of the EU countries, led to relocation of the clothing production, including workwear.
Italy is Europe's largest producer of safety footwear (ahead of Spain and France) with about 42 million pairs in 2001. Production of industrial gloves in the EU is

very limited. The types of gloves which are produced fall mainly into the category of the more expensive quality gloves in the categories II and III. Most of the manufacturers of PPE are specialists in only one product group. However, a small number of companies makes a range of different product groups. The need for offering a 'total package' to their clients is supplemented by purchasing from other companies and by taking the position of distributor or re-seller.

Imports of PPE

Total EU imports of PPE grew by 16 percent in 2000 and more or less stabilised (+0.8 percent) in 2001, when they amounted to € 3.9 billion. Imports increased in terms of weight by 10 percent to 462 thousand tons in 2001.

Germany remained the leading importer, with an import share of 21 percent in terms of value, followed by France, UK, Italy and Belgium. The Netherlands ranked sixth, followed by Spain and Sweden.

Imports into the individual member states varied strongly in the period 1999-2001. Imports (in terms of value) decreased (Germany); grew slowly (Belgium); grew by 10-16 percent but still under the EU average (The Netherlands, Sweden, Austria and Denmark); grew fast by 17-25 percent (France and Greece) and, boomed with a growth of more than 25 percent (Italy, Finland, Spain, UK and Ireland). This strong variation in developments in imports of PPE per EU country depends on several factors like size and structure of domestic production of PPE, the possibilities and size of re-exports, developments in demand and developments in exchange rates (like in the case of the UK).

Nearly all EU members have a substantial own production of (safety) footwear, headgear, glasses and breathing appliances. Import shares for these product groups are much lower than for the remaining groups. Gloves, in particular made of rubber, came from countries with low-labour costs and often with production located at a short distance from the source of rubber, while the relatively high share in the cost of clothing resulted in a high percentage of re-location of production with the exception of southern countries, like Spain, Italy and Portugal.

Germany consolidated its leading position as an importer of workwear and protective clothing in the period under review, despite a decrease in terms of value and in volume. France retained its second position after Germany, however, the distance between these countries became much smaller. The Netherlands ranked fifth after UK and Italy. In this product group, 44 percent (in terms of value) of EU imports came from developing countries in 2001 (just like in 2000), of which 51 percent from the Mediterranean Rim (mainly Tunisia and Morocco) and 39 percent from Asian countries (China, Pakistan and to a much lesser degree India, Vietnam, Sri Lanka and Bangladesh). However, the import share of the Mediterranean countries decreased by 23 percent, while imports from Asian countries increased by 66 percent in the period 1997-2001. An increasing share of EU workwear import came from CEECs (developing countries, like Macedonia, Slovenia and Bosnia & Herzegovina) as well as from non-developing countries like Poland, Slovakia and Czech Republic.

The role of developing countries in EU imports of protective footwear became relatively more important: in 1999 about 26 percent of total imports came from these countries and in 2001 this percentage had risen to almost 34 percent. EU imports from developing countries came mainly from Tunisia, China, India and Slovenia.

The role of developing countries in EU imports of safety headgear is rather limited. Only 14 percent (in terms of value) came from these countries in 2001, of which almost completely from Asian countries (China, South Korea, Thailand and Indonesia).

Developing countries dominated EU imports of protective gloves. Almost 60 percent of the total 4.6 billion pairs came from developing countries. This percentage is the same as for imported rubber gloves, for which Malaysia remained by far the most important supplier followed by Thailand, Indonesia, Sri Lanka and China. Asian countries (China, India and Pakistan) also dominated EU imports of leather protective gloves

Exports

The EU member states exported PPE for € 2,510 million in 2001, representing a growth of 14 percent in the period 1999-2001. Italy remained the leading EU exporter, mainly caused by its exports of protective footwear (39% of total EU exports in this product group) and safety headgear (49% of total EU exports). Almost a third of total EU exports concerned exports to other EU countries in 2001. The main destinations outside the EU were USA (23% of non-EU exports), Switzerland, Hungary, Norway, the Czech Republic and Japan.

Distribution

Suppliers on the traditional workwear market in the EU are manufacturers which have a market share of 50 percent. Wholesalers/importers with a broad assortment, which is a combination of products from European manufacturers and imports from outside Europe, have a market share of 24 percent. They often combine (factory) branded products with their own labels or products without labels. Other channels are garment rental and laundry companies (14%), retailers (5%) mostly specialised in workwear who sell both to consumers and professional users in small units; tender (5%) and, other channels (2%), like Do-It-Yourself (DIY) outlets, street markets etc.

It is believed that wholesale and catalogue business will

become the major growth areas throughout most of the European workwear markets. Meanwhile, direct sales from manufacturers and garment rental/leasing are expected to remain flat, while tender and retail sales are predicted to decrease.
Suppliers on the PPE market in EU countries are independent national manufacturing companies (often specialised in one specific product group).
Manufacturers complement their range by offering goods from other sources including imports, manufacturing operations by international companies with headquarters in or outside Europe, manufacturing companies from abroad with manufacturing and/or commercial interests in the EU and distributors or wholesalers offering a PPE assortment from other sources including imports.
Most of the manufacturers have their own specialisation. In general, manufacturers do not undertake direct selling operations to end-users, except for the largest international companies which often operate on the basis of contracts and concerning large quantities. Many (larger groups) companies, however, have extended their assortment by acquisition of specialists in other products or they purchase products to complement their own assortment. The PPE market can be characterised further as a large network of distributors on several regional levels per country. In general, distributors may also deal in imported goods.

Opportunities for exporters
The keen competition on the PPE market will steadily increase and this leads to further opportunities for exporters in low-cost countries. The most important determining factors for exporters operating on this basis are the combination of price, product quality and reliability of deliveries and delivery times.
In particular in the PPE sector, exporters are confronted with many aspects like quality standards (CE marking!), product liability, sizing, packaging and environmental aspects. These result in a lot of technical requirements, added to which are aspects of design, fashion, comfort, ergonomics and market developments etc. For that reason, co-operation in a variety of forms between importer and exporter is likely to be necessary.
Specialising in a specific area of workwear or another PPE sector can be advisable. Growth markets for exporters in the workwear sector are the following: the occupational safety and health, industrial workwear via wholesaler and/or garment laundries, the retail sector and the hotel, restaurant and catering (also referred to as "horeca") sector.

INTRODUCTION

CBI's EU Market Survey 'Personal Protective Equipment' is built up in the following way:

Market Survey

Part A
EU Market Information and Market Access Requirements

EU Market Information *(Chapters 1-8)*	**EU Market Access Requirements** *(Chapter 9)*
Product characteristics Introduction to the EU market Consumption and production Imports and exports Trade structure Prices	Quality and grading standards Environmental, social and health & safety issues Packaging, marking and labelling Tariffs and quotas

Part B
Export Marketing Guidelines: Analysis and Strategy

External Analysis *(Chapter10)*	**Internal Analysis (company audit)** *(Chapter 11)*
Opportunities & Threats	Strengths & Weaknesses

Decision Making
(Chapter 12)

SWOT and situation analysis:
Target markets and segments
Positioning and improving competitiveness
Suitable trade channels and business partners
Critical conditions and success factors (others than mentioned)

Strategic options & objectives

Export Marketing
(Chapter 13)

Matching products and product range
Building up a trade relationship
Drawing up an offer
Handling the contract
Sales promotion

Part A provides EU market information for PPE and describes the requirements, which have to be fulfilled in order to gain market access for PPE. The emphasis of the survey lies on those products, which are of importance to developing country suppliers. The major national markets within the EU for those products are highlighted and are placed in ranking of consumption: Germany, UK, France, Italy, Spain and The Netherlands. Four of these countries (Germany, UK, France and Italy) are the leading importers of PPE in the EU and Italy France and Germany the leading exporters.

It is of vital importance that exporters comply with the requirements of the EU market in terms of quality

standards (CE marking!), product liability, sizing, packaging, safety and environmental standards and several other aspects. These issues are therefore covered in Chapter 9. The survey includes contact details for trade associations, trade fair organisers and other relevant organisations.

Part B subsequently aims to assist (potential) exporters in developing countries in their export-decision making process. After having assessed the external (Chapter 10) and internal environment (Chapter 11), the (potential) exporter should be able to determine whether or not there are interesting export markets for his company. In fact, by matching external opportunities and internal capabilities, he should be able to identify suitable target countries, market segments and target product(s) within these countries, as well as possible trade channels to export the selected products (Chapter 12).

Chapter 13 subsequently describes a number of marketing tools. The subjects and outcomes of the different paragraphs of Chapter 13 can be used as input for the Market Entry Strategy and Export Marketing Plan.

Summarised, part A provides facts on the EU market with special interest for exporters in developing countries. Part B gives more sector specific guidelines and examples on how to enter the EU market.

Part A
EU market information and EU market acces requirements

1 PRODUCT CHARACTERISTICS

1.1 Product groups

Products covered by this survey can be divided according to their specific protective functions, like:

- Full-body protection, including
  - traditional workwear
  - uniforms
  - protective clothing for particular environments
- Hand and arm protection
- Foot and leg protection
- Head, face and respiratory protection, covering
  - head protection
  - eye and face protection
  - hearing protection
  - air purification (breathing protection)
- Fall protection, like descender devices

1.1.1 Full-body protection

Protective products for the body cover a wide variety of clothing in several degrees of protection. In many publications the term 'corporate clothing' includes (traditional) workwear, uniforms, careerwear, corporate casual wear and protective clothing (such as high visibility and flame retardant). However, it does not apply in this survey, because careerwear will not be discussed.

Workwear includes boiler suits and coveralls, bib and brace or American overalls, (dust) coats, jackets and trousers as well as a wide variety of similar styles used in industry, hotel, restaurant (often referred to as "horeca") and catering, retail, health care (nurses' uniforms) and many other sectors. These garments are usually of simpler construction and can be made specific to the company (organisation) through colour and/or badges and logos. In practice, one will find many variations of these garments, depending on the manufacturer or on the specific requirements of the clients.
A fairly small group of materials (other than textiles) is used, such as non-wovens, leather, etc.. Disposable clothing is used for temporary, very dirty work circumstances and in hospital operating theatres. Its drawbacks are environmental factors i.e. disposal and the higher costs.

Uniforms are mainly tailored outfits of polyester/wool or wool-rich fabrics for the military, police, fire and other public service institutions.

Corporate casualwear includes joggers, sweaters, sweatshirts and blousons bought by the company for its staff to wear at work often combined with products of traditional workwer, jeans or other casual trousers.

Protective clothing of specialist fabric or construction is designed to protect the wearer in particular environments like: fire or (extreme) heat, (extreme) cold temperature, ballistics, radiation, bacterial/viral, chemicals/gas, foul weather, (resistance to) acids, nuclear contamination and mechanical injury.
Protective clothing also includes high-visibility clothing and clean room, lint-free and anti-static garments for industries where ordinary workwear could contaminate goods being produced, such as food and microelectronics.
A wide range of materials is used for protection. In general they vary from fairly basic coated fabrics to sophisticated and higher performance materials.

Fire or heat protection
This performance characteristic is most often incorporated into the fabric through special flame-retardant finishes. These, however, often have undesirable side effects (toxic smoke) and can affect fabric appearance and hand. Special fire retardant fibres, such as the aramides (brand names: Nomex ®, Kevlar ® etc.), are widely used and new developments in polyester and acrylate fibres offer cheaper alternatives in less critical applications. Garments made up of several layers of different fabrics, woven, knitted and non-woven, are common in this sector. Each layer has a specific function, be it fire resistance, vapour barrier or thermal insulation. The performance criteria vary greatly and so, as a result, do the materials used. Heat-resistant clothing is used in welding and foundry applications, in the glass processing industry and for fire fighting. Special finishes are required to resist splashes of molten metal.

Protection against extreme cold temperature
Cold-temperature protection is based on incorporating a layer of dead air between the body and the outside air, so that body heat will not be dissipated by conduction. New products are replacing the old bulky down or synthetic fibre fill. Breathable fabric laminates (micro-fibres) of different materials are used extensively.

Ballistic protection
In ballistics, protection is in the form of bulletproof vests used (mainly) by defence and police. Aramid and other high-tech fibres now dominate this area. This sector is very similar to the fire protection area in that performance requirements vary greatly and there is, consequently, a large number of potential solutions.

Radiation protection
For radiation protection, the textile has to be designed according to the type of radiation hazard anticipated. Some of these can be quite complex. An alternative is to use layers of different fabrics laminated together. In the case of protection against X-rays, for example, the normal protective element is lead. Japanese developments in this area are a lead-impregnated fibre suitable for weaving into a protective fabric and a polyethylene and condensed boron fibre.

Bacterial/viral protection
In the area of bacterial and viral protection there are two main techniques in use. The first is to incorporate a bactericide directly into the textile through a special finish. The active ingredient will often release progressively over time and under certain conditions. The second way is to create a barrier fabric through coating or laminating. This area has been given special impetus by the care of AIDS patients.

Chemical/gas protection
Chemical and gas protective suits are important in industry. For the lowest-risk chemicals, cotton or synthetics may be adequate, but more aggressive chemicals may require coating and lamination in the protective clothing creating barriers to chemical and gas penetration and permeation. A common fabric is polyethylene non-woven used in untreated form against low-level protection and coated with polyethylene for high-level protection against splash hazard from acids and other chemicals. More complex coatings and laminates resulting in more advanced materials offer even higher degrees of protection. Full protective suits may be required in some circumstances, including splash-proof and vapour-proof suits.

Cut/slash protection
In the field of cut/slash protection, the requirement lies in industrial areas like the food industry (slaughter houses), or in forestry where the operator works with dangerous equipment (chain saws), or when working with hazardous materials such as sheet metal or glass. The protection required is difficult to achieve without the use of heavy unwieldy layers of fibres that makes the wearer uncomfortable and hinders his efficiency. There is an increasing use of speciality fibres like para-aramides and high modulus polyethylenes.
Gloves and aprons account for a high proportion of cut and slash protection materials/clothing.

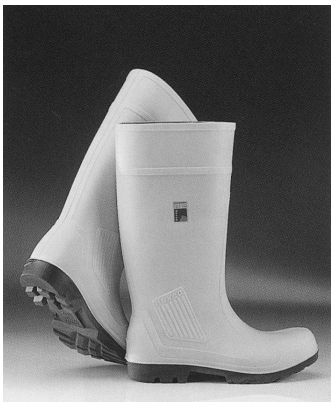
Other protective clothing
There are special applications for which protective clothing is constructed, like high visibility clothing and life jackets. High visibility clothing is manufactured from PVC infiltrated with fluorescent pigments. Retro-reflective materials are the most effective of the high-visibility materials. Bands of reflective materials must be incorporated in the clothing. Both materials, fluorescent and reflective, are used to obtain high-visibility during day and night. Different classes are used, of which the highest is required for instance for roadwork and police. Other examples are protection against dust, electrostatic charges etc.

1.1.2 Hand, elbow and arm protection
As in the case of clothing, a division can be made between 'traditional' working gloves and protective or safety gloves.
The application of traditional working gloves is universal, including consumer activities in and round the house. Materials used for these gloves are:
- textile based: heavy-duty woven cotton, plain, dipped, coated or faced with chrome leather. These so-called low-budget gloves are often bought in large quantities at very low prices; their life cycle is short and their application is universal
- leather
- based on polymeric materials which may include natural rubber, synthetic elastomer or PVC.

Protective or safety gloves are designed for specific working circumstances and can vary from the lightest latex glove to the heavy-duty gauntlet. Protective gloves can be divided into (non-exhaustive list):
- cut-resistant gloves based on aramides (Kevlar etc.)
- chemical-resistant gloves
- heat-resistant gloves (welding, firefighting etc.)
- cold-resistant gloves
- disposable clothing
- bacterial and viral protective gloves (medical or surgical rubber-made gloves and cotton-made gloves for food industries)

Household gloves are made from rubber or latex (just like surgical gloves), of which an important part is used for industrial activities.
In this survey, gloves (usually with separated fingers) also include mitts or mittens (type of glove covering four fingers together and the thumb separately). Some gloves not only cover the hands but also the under-arm.

1.1.3 Foot and leg protection
In general (light) industrial shoes are normal shoes but stronger than usual. Safety footwear is required for more specific working environments. Most of the safety shoes protect against falling objects (steel toe caps) and against penetration by sharp objects (re-inforced soles) and/or anti-slip soles for slippery circumstances.
Uppers are made of leather, rubber or PVC.
Boots are used if the ankle requires protection or in the



case of wet working circumstances (Wellington boots) or are made of cut-resistant materials, when work has to be done with chain saws for example in forestry. Other specific safety footwear are heat and cold resistant, anti-static etc.
It has to be noted that at present anti-slip resistant does not fall under the scope of the EC Directive.

1.1.4 Head, face and respiratory protection

This classification covers head protection, eye and face protection, hearing protection and breathing protection.
Head protection includes two broad categories:

- Helmets (protecting against falling objects); helmets can be extended with visors or hearing protection, the latter being eventually built-in. Materials used for safety helmets are in the lighter weight class: polymer such as polypropylene and in the heavier class HDPE or ABS, with an inner-side (or cradle) of LDPE or polyester and eventually with a headband and/or chinstrap.
- Headgear (protecting against scalping or entanglement); like bump caps, caps and hairnets.

Working circumstances, which demand protection for the eyes are, among others:
work with chemicals, with molten metals, with tools from which materials can be ejected, with intensive emission of light (welding) etc.
Protective products (following degree of protection) cover:

- safety glasses
- safety goggles (because of the headband, there is a closer fit to the face than glasses)
- eye shields or face shields

Products for hearing protection fall into two categories:

- ear plugs, made from foam or plastic (individual or worn with a light headband or neck cord)
- ear muffs, which are worn with a headband

Respirators are designed to prevent the inhalation of hazardous materials, of which dusts, lints, metal fumes, vapours and gases. There is a great variety of products from a simple dust mask to full-face masks.
Respirators can be divided into two categories:

- atmosphere purifying respirators, with a filtration mechanism to purify the air
  - half-mask cartridge respirator
  - full-face piece cartridge respirator
  - gas masks
  - powered air purifying respirator (PAPR)
- atmosphere-supplying respirators provided with an external source of breathable air
  - self-contained breathing apparatus
  - air-line respirator

1.1.5 Protection against falls from a height (descender devices)

Products in this category vary from (safety) belts to full-body harnesses and from lineyards to safety nets. Carabiners and hooks also belong to this category.

It should be noted that figures for consumption, production and trade are not available for this product category.

1.2 Customs/statistical product classification

Appendix 1 of this report classifies the PPE articles using the 9-figure harmonised coding system (Combined Nomenclature). These numbers are used by Customs, national official statistical institutes and Eurostat for the European Union. Using the information contained in the appendix, it is possible to see whether the garments concerned are for men or women and how they are made. Table 1.1 gives a list of the main HS codes for PPE.

Table 1.1 HS code classification of PPE

Some items in chapter 62.03	Men's or boys' woven workwear (ensembles, jackets and blazers, trousers and breeches, bib and brace overalls) of cotton, synthetic fibres or artificial fibres
Some items in chapter 62.04	Women's or girls' woven workwear (ensembles, jackets and blazers, trousers and breeches, bib and brace overalls) of cotton, synthetic fibres or artificial fibres
Some items in chapter 62.11.30	Men's or boys' industrial and occupational clothing (excluding knitted) of cotton or man-made fibres
Some items in chapter 62.11.40	Women's or girls' industrial and occupational clothing (excluding knitted) of cotton or man-made fibres
40.15.10.000	Gloves of vulcanised rubber other than hard rubber
42.03.29.100	Leather and artificial leather protective gloves for all occupations
61.16.10.200	Knitted gloves, mittens and mitts impregnated, coated or covered with rubber
64.01.10.	Waterproof footwear with outer soles and uppers of rubber or plastic, incorporating a protective metal toe cap and with uppers of rubber or plastic
64.02.30	Other footwear with outer soles and uppers of rubber or plastic, incorporating a protective metal toe cap with uppers of rubber or plastic
64.03.40.	Footwear with outer soles of rubber, plastic, leather or composition leather and uppers of leather, incorporating a protective metal toe cap
65.06.10.	Safety headgear
90.04.90	Protective glasses
90.20.00	Breathing appliances and gas masks

Remarks on import and export statistics used in this survey:

It should be noted that the available official statistics concern traditional workwear and do not cover the other product groups. Uniforms are classified in the category suits and ensembles, specific workwear is classified under rainwear etc..

Gloves of rubber concern surgical gloves, household gloves and other rubber gloves. This category varies from the lightest disposable latex glove used for short periods (in food preparation, laboratory work etc.) to heavier qualities, non-impregnated as well as impregnated and supported with a backing. The percentage of household gloves used in working circumstances or in private households is not known. For that reason, all kinds of rubber gloves are included in trade statistics in this survey.

Footwear in official statistics is limited to footwear incorporating a protective metal toe cap, and only divided into waterproof or other footwear.

An extended list of protective products e.g. for leg protection, arm protection, hearing protection, fall protection, is not covered by official statistics, which is why import and export statistics do not cover these products.

2 INTRODUCTION TO THE EU MARKET

The European Union (EU) is the current name for the former European Community. Since 1 January 1995, the EU has consisted of 15 member states. Ten new countries will join the European Union in 2004; the acceding countries are Czech Republic, Estonia, Cyprus, Latvia, Lithuania, Hungary, Malta, Poland, Slovenia and Slovak Republic. Negotiations are in progress with a number of other candidate member states.

In 2002, the size of the EU population living in private households, totalled 374.8 million; the average GDP per capita amounted to approximately € 21,023 in 2002. 163.1 million had a job and 64.2 percent of the population aged 15-64 was employed.

Demand for PPE is, among many other functions (which will be discussed in chapter 3), determined by the number of employees and their activities. For that reason an overview will be given for the individual EU countries in table 2.1. Their employment rate was as high as 70 percent or more in Denmark, The Netherlands, Sweden and the UK. 13.5 million people were unemployed, which represented 7.6 percent of the overall EU labour force (8.6 percent for women).

More than 20 million enterprises are active in Western Europe – covering 15 EU member countries, Iceland, Liechtenstein, Norway and Switzerland. Small and medium-sized enterprises (SMEs) accounted for the lion's share. In 2000, the average turnover per enterprise of SMEs and large enterprises amounted to € 600,000 and € 255 million respectively.

EU Harmonisation

The most important aspect of the process of unification (of the former EC countries), which affects trade, is the harmonisation of rules in the EU countries. As the unification allows free movement of capital, goods, services and people, the internal borders have been removed. Goods produced or imported into one member state can be moved around between the other member states without restrictions. A precondition for this free movement is uniformity in the rules and regulations concerning locally produced or imported products. Although the European Union is already a fact, not all the regulations have yet been harmonised. Work is in progress in the fields of environmental pollution, health, safety, quality and education. For more information about harmonisation of the regulations visit AccessGuide, CBI's database on non-tariff trade barriers at www.cbi.nl/accessguide

Monetary unit: Euro

On 1 January 1999, the euro became the legal currency within twelve EU member states: Austria, Belgium, Finland, France, Germany, Italy, Ireland, Luxembourg, The Netherlands, Spain, and Portugal. Greece became the 12th member state to adopt the euro on January 1, 2001. In 2002 circulation of euro coins and banknotes replaced national currency in these countries. Denmark, United Kingdom and Sweden have decided not to participate in the euro.

Trade statistics

The most recent Eurostat trade statistics, covering imports and exports by the EU, quoted in this survey

Overview 15 EU countries, 2002

Population	**374.8 million**
Area	**31,443,000 km²**
Density	**83 people per km²**
Languages	**11 (excl. dialects)**
GDP/capita	**€ 21,023**
Currencies	**€, UK£, DKr., SKr.**
Exchange	**€ 1 = US$ 0.99**

Source: Mintel, World Factbook (2002)

Population and GDP of selected EU countries, 2002

Countries/category	Population in millions	Age 15-64	GDP (€ billion)
Germany	81.5	68%	2,206
France	57.9	65%	1,556
UK	59.0	66%	1,485
Italy	57.4	67%	1,416
Spain	40.3	68%	836
The Netherlands	16.0	68%	417

Source: Mintel, World Factbook (2002)

Table 2.1 Overview population and employment by economic activity in the EU, 2002

	Population 2002 in millions	Labour force in millions	Agriculture etc. in %	Industry in %	Services in %	Unemployment rate in %
Germany	81.5	36.3	2.5	32.4	65.1	8.5
United Kingdom	59.0	28.3	1.4	24.1	74.5	5.0
France	57.9	23.9	4.1	25.4	70.5	8.7
Italy	57.4	21.8	4.9	31.6	63.5	9.2
Spain	40.3	16.2	5.9	31.3	62.7	11.1
Netherlands	16.0	8.2	2.9	21.0	76.1	2.6
Portugal	10.4	5.1	12.5	33.6	53.9	4.5
Greece	10.4	3.9	15.8	22.5	61.7	9.6
Belgium	10.3	4.1	1.8	25.8	72.4	6.9
Sweden	8.9	4.4	2.5	23.0	74.5	5.0
Austria	8.0	3.7	5.7	28.9	65.4	4.9
Denmark	5.3	2.7	3.2	23.5	73.3	4.3
Finland	5.2	2.4	5.5	27.1	67.3	10.4
Ireland	3.9	1.8	6.9	27.8	65.2	4.3
Luxembourg	0.4	0.2	2.0	20.1	77.9	2.6
EU (15)	**374.8**	**163.0**	**4.0**	**28.2**	**67.8**	**7.6**
Acceding countries (10)	66.7	28.9	13.4	32.1	54.5	14.8

Source: Eurostat Labour Force Survey 2002

are from the year 2001. CBI's EU market guide PPE 2002 included preliminary trade figures for 2001. At the moment of compiling this survey , definitive figures for 2001 were published by Eurostat, but not preliminary figures for 2002. In this market survey, the € is the basic currency unit used to indicate value. Trade figures quoted in this survey must be interpreted and used with extreme caution. The collection of data regarding trade flows has become more difficult since the establishment of the single market on 1 January 1993. Until that date, trade was registered by means of compulsory customs procedures at border crossings, but, since the removal of the intra-EU borders, this is no longer the case. Statistical bodies like Eurostat cannot now depend on the automatic generation of trade figures. In the case of intra-EU trade, statistical reporting is only compulsory for exporting and importing firms whose trade exceeds a certain annual value. The threshold varies considerably from country to country, but it is typically about € 100,000. As a consequence, although figures for trade between the EU and the rest of the world are accurately represented, trade within the EU is generally underestimated.

Furthermore, the information used in this market survey is obtained from a variety of different sources. Therefore, extreme care must be taken in the qualitative use and interpretation of quantitative data, both in the summary and throughout the text, as also in comparisons between different EU countries with regard to market approach, distribution structure, etc.

For more information on the EU market, please refer to the CBI manual "Exporting to the European Union".

3 EU CONSUMPTION OF PPE

3.1 Market size

3.1.1 EU in total

The market for PPE in the EU is estimated to have been almost € 6.9 billion in 2002. The market for traditional workwear and uniforms declined in the period 2000-2002 in favour of more specialist protective clothing. However, the market for other (than clothing) protective equipment increased steadily in the same period. About 85 million people in the EU wear corporate clothing and/or use other PPE products. This concerns professional clothing of the traditional workwear type (47%), image and/or careerwear (27%), uniforms (8%) and protective clothing (18%). Protective clothing is often combined with traditional workwear or uniforms. Total (average) expenditure per employee varied from € 55 for users of traditional workwear to € 530 of users of one or more PPE products (respectively € 57 and € 480 in 2000) mainly caused by an increased annual demand for protective equipment (5.6% during the period 2000-2002).

Demand for PPE is a function determined (among other factors) by:

- number of employees and their profession;
- legislation, like the law on health and safety in the working place (EU-PPE legislation). Governmental and EU measures resulted in an increasing consciousness regarding safety in working circumstances and concern a broad range of protective products besides clothing, i.e. also other safety products, from helmet to safety shoe;
- investments often derived from (expected) economic developments;
- investments derived from increasing need for security;
- fashion influences;
- influence from competitive products, for instance the market share of competitive products like disposable clothing.

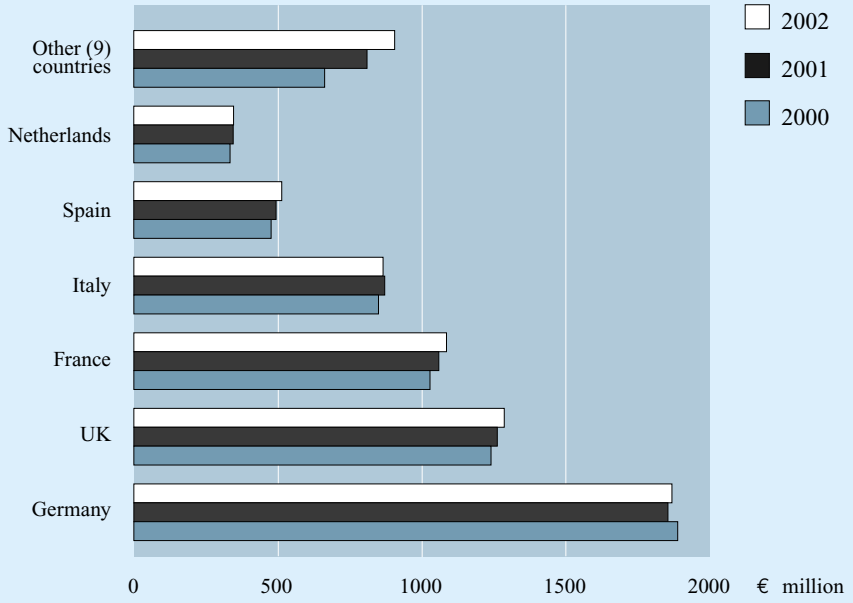
Germany remained the most important market for PPE within the EU with a market share of 27 percent, followed by the UK (19%), France (16%), Italy (12%), Spain (7%) and The Netherlands (5%).

The market for workwear will slightly decrease in the coming years in terms of volume but will stabilise in terms of value, which indicates a small growth in prices. The PPE market will slightly increase in terms of volume against higher prices, caused by technical innovations and usage of specialised fabrics for protective clothing. The total PPE market is estimated to grow by 3 percent annually.

Table 3.1 Consumption of PPE (€ million) in EU countries in 2000-2002 and expected developments in 2003-2008

	2000 € mn	2001 € mn	2002 € mn	2003-2008 Average annual growth in %
Traditional workwear	2,114	2,042	2,005	1.4
Protective clothing	979	1,065	1,140	4.7
Uniforms	756	715	700	-1.1
Total clothing	**3,749**	**3,822**	**3,845**	**1.8**
Other PPE				
Gloves	973	1,022	1,062	4.3
Head, face and respiratory	959	1,004	1,054	5.0
Footwear	833	868	908	4.1
Total PPE	**6,614**	**6,716**	**6,869**	**3.0**

Figure 3.1 Expenditure on PPE in major EU countries



3.1.2 Germany

Germany's affluent and technologically powerful economy achieved a relatively weak performance throughout much of the 1990s. The modernization and integration of the East German economy continues to be a costly long-term problem, with annual transfers from west to east amounting to roughly $70 billion. Germany's ageing population, combined with high unemployment, has pushed social security outlays to a level exceeding contributions from workers. Structural rigidities in the labour market - including strict regulations on laying off workers and the setting of wages on a national basis - have made unemployment a chronic problem. Business and income tax cuts introduced in 2001 did not spare Germany from the impact of the downturn in international trade, and domestic demand faltered as unemployment began to rise. Growth in 2002 again fell short of 1%. Corporate restructuring and growing capital markets are setting the foundations that could allow Germany to meet the long-term challenges of European economic integration and globalisation, particularly if labour market rigidities are addressed. In the short run, however, the fall in government revenues and the rise in expenditures has brought the deficit over the EU's 3% debt limit.
Germany is one of world's largest and most technologically advanced producers of iron, steel, coal, cement, chemicals, machinery, vehicles, machine tools, electronics, food and beverages, shipbuilding and textiles.
Industry generates 30 percent of GDP. The German GDP growth rate for 2000 was 2.86 percent and much smaller in 2001: 0.57 percent and only 0.18 percent in 2002.

The large German market for PPE can be divided into:

- diminishing markets for basic workwear as a result of high unemployment in the manufacturing sector. A further decrease is expected for the coming years.
- a growing market for other PPE, mainly in terms of value (a further growth is expected for the coming four or five years). The increase in demand for specialist protective clothing is the result of the European safety legislation.

In general, German buyers (in particular public authorities and industrial buyers) have a high consciousness regarding standards. Sometimes their requirements are higher than CE standards, which stipulate that CE standards are minimum requirements. Parts of the German market (in particular Southern Germany) are rather difficult to penetrate for exporters, because there is a negative attitude in buying policy against products from foreign countries other than North American and West European countries.
In the sectors health care and retail, which employ a large proportion of women, there is a difference in styling. In the health sector, it is very common for women to wear a tunic and trousers rather than a dress and there is a very wide variety of styles. In the retail sector, the variety in types of products is even wider.

3.1.3 UK

The UK is one of the world's great trading powers and financial centres and its economy ranks among the four largest in Western Europe. Over the past two decades the government has greatly reduced public ownership and contained the growth of social welfare programmes. The GDP growth rate was 2.2 percent in 2001, 1.4

Table 3.2 Sales of workwear and protective clothing in Germany, 2000-2002

	2000		2001		2002	
	million units	€ million	million units	€ million	million units	€ million
Traditional workwear	38.2	678	36.2	633	35.9	617
Protective wear	14.7	272	15.9	298	16.4	321
Uniforms	7.4	227	7.0	194	6.8	190
Total clothing	**60.3**	**1,177**	**59.1**	**1,125**	**59.3**	**1,128**
Gloves	n.a.	242	n.a.	248	n.a.	251
Head, face and respiratory	n.a.	266	n.a.	272	n.a.	275
Footwear	7.6	213	7.7	218	7.7	223
Total PPE		**1,898**		**1,863**		**1,877**

Derived from several sources

percent in 2002 and a further growth of 2.5 percent in 2003 is expected. GDP growth slipped in 2001-2002 as the global downturn, the high value of the pound, and the bursting of the "new economy" bubble hurt manufacturing and exports. Still, the economy is one of the strongest in Europe; inflation, interest rates, and unemployment remain low. The government has been speeding up the improvement of education, transport, and health services, at a cost in higher taxes. The war in March-April 2003 between the US-led coalition and Iraq involves a heavy commitment of British military forces, a commitment that will affect economic developments in 2003.

Agriculture is intensive, highly mechanised and efficient by European standards, producing about 60 percent of food needs by employing only 1 percent of the labour force. Primary energy production accounts for a very high 10 percent of GDP. Industry covers production of machine tools, electric power equipment, automation equipment, railroad equipment, shipbuilding, aircraft, motor vehicles and parts, electronics and communications equipment, metals, chemicals, coal, petroleum, paper and paper products, food processing, textiles, clothing, and other consumer goods.

Services, particularly banking, insurance, and business services, account by far for the largest proportion of GDP while industry continues to decline in importance. The UK is the leading producer in the EU of corporate wear. Demand for PPE grew in the period under review. Total demand for traditional workwear (around 20 million units in 2002) will decline in volume in the coming years. Protective clothing will grow modestly but against higher prices, caused by increased usage of (high-tec) specialised fabrics.

Table 3.3 Sales of workwear and protective clothing in UK, 2000-2002

	2000		2001		2002	
	million units	€ million	million units	€ million	million units	€ million
Traditional workwear	20.7	391	20.5	388	20.5	388
Protective wear	10.0	196	10.4	210	10.6	215
Uniforms	3.5	137	3.6	139	3.5	138
Total clothing	**34.2**	**724**	**34.5**	**737**	**34.6**	**741**
Other PPE						
Gloves	n.a.	201	n.a.	202	n.a.	205
Head, face and espiratory	n.a.	190	n.a.	192	n.a.	198
Footwear	5.4	144	5.5	146	5.5	145
Total PPE		**1,259**		**1,277**		**1,289**

Derived from several sources

3.1.4 France

The French economy is exceptionally diversified and matches a growing service sector with a diversified industrial base and substantial agricultural resources. Agriculture and the agro-food industries account for a larger share of economic activity than in many other West European countries: the two sectors account for 6 percent of total added value in the economy. Industry generates one quarter of GDP and covers machinery, chemicals, automobiles, metallurgy, aircraft, electronics, textiles and food processing. Tourist-related economic activities – many involving gastronomy- figure significantly in the tertiary sector. The predominance of the services sector in the economy is pronounced even by West European standards, accounting for some 72 percent of GDP. However, its role has declined in recent years following a wave of privatisations.

France's leaders remain committed to a capitalism in which they maintain social equity by means of laws, tax policies, and social spending that reduce income disparity and the impact of free markets on public health and welfare. France is in the midst of transition, from an economy that featured extensive government ownership and intervention to one that relies more on market mechanisms. The French government has partially or fully privatised many large companies, banks, and insurers, but still retains controlling stakes in several leading firms, including Air France, France Telecom, Renault, and Thales, and remains dominant in some sectors, particularly power, public transport, and defense industries. The telecommunications sector is gradually being opened to competition.

The current government has lowered income taxes and introduced measures to boost employment. At the end of 2002 the government was focusing on the problems of the high cost of labour and labour market inflexibility resulting from the 35-hour workweek and restrictions on lay-offs. The government was also pushing for pension reforms and simplification of administrative procedures. The tax burden remains one of the highest in Europe. The current economic slowdown and inflexible budget items have thrown the government's goal of balancing the budget by 2004. French GDP growth rate was 4.24 percent in 2000, 2.09 percent in 2001 and decreased further to 1.24 percent in 2002.

Most opportunities lie in the field of traditional workwear, especially in the health sector and in the hotel and catering sector. Fashionable and functional medical clothing as well as horeca (hotel, restaurants, cafés) clothing, made of good quality fabrics, form a market with possibilities. However, just like the consumer clothing market, the French market is very difficult to penetrate. Although the demand for specialist protective wear has risen, the bulk of specialist fabrics, as well as the garments themselves, are supplied by French companies.

3.1.5 Italy

Italy has a diversified industrial economy with approximately the same total and per capita output as France and the UK. Over the past decade, Italy has pursued a tight fiscal policy in order to meet the requirements of the Economic and Monetary Unions and has benefited from lower interest and inflation rates. The current government has enacted numerous short-term reforms aimed at improving competitiveness and long-term growth.

Italy's overall economic structure is comparable to that of other major EU countries with a small and diminishing primary sector and services that contribute close to two-thirds of gross valued added. Italy remains divided into a developed industrial north, and a less

Table 3.4 Sales of workwear and protective clothing in France, 2000-2002

	2000		2001		2002	
	million units	€ million	million units	€ million	million units	€ million
Traditional workwear	17.3	353	17.3	360	17.3	361
Protective wear	8.3	145	8.8	156	9.0	162
Uniforms	3.5	128	3.4	121	3.1	119
Total	**29.1**	**626**	**29.5**	**637**	**29.7**	**642**
Other PPE						
Gloves	n.a.	160	n.a.	166	n.a.	170
Head, face and respiratory	n.a.	118	n.a.	129	n.a.	135
Leather safety footwear	6.6	126	6.8	129	6.8	132
Total PPE		**1,030**		**1,061**		**1,079**

Derived from several sources

developed agricultural south where unemployment is 20 percent. Industry generates 25 percent of GDP and covers machinery, iron and steel, chemicals, automobiles, textiles, clothing, footwear, food processing and ceramics. Most raw materials needed by industry and more than 75% of energy requirements are imported. The Italian GDP growth rate fell to 1.81 percent in 2001 and fell further to 0.37 percent in 2002.

The strongest component of the Italian economy consists of clusters of small and medium sized family-owned companies in the industrial districts, mostly in the north-east and the centre of the country. Industrial companies had an average of 8.7 employees, compared with an EU average of about 15. Italy plays a major role in global footwear and clothing production, in spite of the high cost of labour. Nearly 85 percent of Italian footwear production is exported. Factors contributing directly to the Italian success are the price, fashion and creativity linked to wearing apparel, technological innovation and product quality. Tourism plays an important role in the service sector.

Compared to the other major EU markets (Germany, France and the UK) Italy has the least developed corporate wear market despite recent growth in both volume and value terms. A further growth is expected to continue. Demand for basic workwear declined very slowly, contrary to developments in many other EU countries.

3.1.6 Spain

Spain's mixed capitalist economy supports a GDP that on a per capita basis is less than 80 percent of that of the four leading West European economies: $ 21.450 in 2002 compared with France $ 26,821, Italy $ 27,010, Germany $ 27,060 and UK $ 28,970. As is the case in most European countries, the Spanish service sector has grown steadily and now dominates the economy accounting for 66 percent of GDP. This expansion has evolved largely at the expense of the agriculture, forestry and fisheries sectors, which accounted for 3.5 percent of GDP last year, although the industrial sector's share of national income has also declined gradually through the years, to stand at just over 20 percent in 2002.
The Spanish fishing fleet and associated industry is highly developed. In the services sector, retailing, tourism, banking and telecommunications all make a crucial contribution to economic activity. The tourist industry is especially important and Spain is now one of the most popular tourist destinations in the world. Prominent manufacturing industries are: textiles, apparel, footwear, food and beverages, metals and metal manufactures, chemicals, shipbuilding, automobiles, vehicles and machine tools.

The Spanish government has continued to advocate liberalisation, privatisation, and deregulation of the economy and has introduced some tax reforms to that end. Unemployment has been steadily falling but remains high at 11.1 percent. The government intends to make further progress by changing labour laws and reforming pension schemes, which are key to the sustainability of both Spain's internal economic advances and its competitiveness in a single currency area. Adjusting to the monetary and other economic policies of an integrated Europe and further reducing unemployment will pose challenges to Spain over the next few years.

3.1.7 The Netherlands

The Netherlands is a prosperous and open economy depending heavily on foreign trade. The economy is

Table 3.5 Sales of workwear and protective clothing in Italy, 2000-2002

	2000		2001		2002	
	million units	€ million	million units	€ million	million units	€ million
Traditional workwear	13.6	332	13.7	341	13.5	336
Protective wear	6.1	118	6.5	122	6.7	127
Uniforms	1.5	40	1.5	41	1.3	37
Total	**21.2**	**491**	**21.7**	**504**	**21.5**	**500**
Other PPE						
Gloves	n.a.	156	n.a.	160	n.a.	162
Head, face and respiratory	n.a.	101	n.a.	109	n.a.	114
Footwear	3.3	87	3.3	89	3.4	92
Total PPE		**835**		**862**		**860**

Derived from several sources

Table 3.6 Sales of workwear and protective clothing in Spain, 2000-2002

	2000		2001		2002	
	million units	€ million	million units	€ million	million units	€ million
Traditional workwear	8.0	163	8.1	164	8.1	162
Protective wear	2.6	55	2.8	59	3.1	66
Uniforms	0.7	21	0.7	20	0.6	18
Total clothing	**11.3**	**239**	**11.6**	**243**	**11.8**	**246**
Other PPE						
Gloves	n.a.	72	n.a.	75	n.a.	78
Head, face and respiratory	n.a.	107	n.a.	111	n.a.	116
Footwear	2.3	60	2.4	62	2.5	65
Total PPE		**478**		**491**		**505**

Derived from several sources

noted for stable industrial relations, moderate inflation, and an important role as a European transportation hub. The Dutch manufacturing sector is relatively small, accounting for some 16 percent of GDP. The services sector as a whole is exceptionally large, providing over 70 percent of GDP. The agricultural sector employs no more than 4 percent of the labour force and is highly mechanised, just like fishing. Industrial activity features food processing, agro-industries, petroleum refining, chemicals, construction, microelectronics and metal and engineering products. Public and personal services are the largest components of services, followed by real estate and renting, wholesale and retail trade, and transport and communications.
The economy achieved a growth of 4.0 percent or more in several years before 2000, but GDP growth was much lower in 2000 (3.32%) and growth slowed considerably in 2001 (1.26%) and 2002 (0.25%), while a further deceleration to – 0.2 percent in 2003 is forecasted, mostly because of a decline in consumer spending.

Demand for PPE will grow in the coming years. Demand for workwear is expected to stabilise, while the demand for uniforms will further fall. The number of small companies has increased in The Netherlands. Besides the kind of branch, the number of employees in an organisation is also important to the way in which PPE is purchased. It is difficult for small organisations to buy other than from wholesalers, retailers or catalogues. Large companies can buy wherever they wish, but will for reasons of costs buy in large quantities direct from the manufacturer or through tenders. Medium-sized companies buy mainly from

Table 3.7 Sales of workwear and protective clothing in The Netherlands, 2000-2002

	2000		2001		2002	
	million units	€ million	million units	€ million	million units	€ million
Traditional workwear	6.7	104	6.8	102	6.8	100
Protective wear	2.3	47	2.5	51	2.6	53
Uniforms	0.7	38	0.6	34	0.6	33
Total clothing	**9.7**	**189**	**9.9**	**187**	**10.0**	**186**
Other PPE						
Gloves	n.a.	44	n.a.	45	n.a.	46
Head, face and respiratory	n.a.	71	n.a.	75	n.a.	74
Footwear	1.5	38	1.5	39	1.5	39
Total PPE		**342**		**346**		**345**

Derived from several sources

wholesalers. More information about distribution channels is given in chapter 7.

3.2 Market segmentation

Market segmentation in the market for PPE can be based on several criteria, like:

- End-user sectors
- Number and gender of employees and their profession
- Types of product (s)
- Types of buying organisations

End-user sectors

The following sectors will be distinguished in this survey:

Agriculture etc. besides agriculture this also includes horticulture, forestry and fishing. Employment force consists for 88 percent of agri- and horticultural workers. This sector is confronted with a downturn in employment levels, resulting in decreased demand for traditional workwear. Protective clothing is used to reduce exposure by workers who are directly or indirectly involved in pesticide applications.

Manufacturing covers 68 percent of total industrial employment and can be divided into heavy and light industry. Heavy industry includes metal and metal products industry, machine construction and glass, while light industry includes petro- and chemical, electronic/technical, food, wood and paper, printing and publishing, furniture, transport, textile and clothing industry. The three main manufacturing sectors by value added in the EU are chemicals, machinery and equipment, and the third sector: food and beverages (meat, dairy, beverages and other food industries). Other industrial activities in the EU are public utilities.

Employment in the **building and construction** covered 55% building, 30% installation and 15% finishing, while female participation is limited to 8 percent.

The number of workforce in the **trade** sector can be divided into employment in retail (54%), wholesale (37%) and car trade (incl. repairs) 9%. Retail covers department stores, supermarkets, butchers, chemists, hairdressers, grocers etc.

Hotel, food and catering; characteristic for this sector is the wide variety in functions with each specific workwear. Kitchen, reception, serving and cleaning workers have all specific (traditional) uniform workwear. Hygiene is of great importance in the food and catering business to produce food. There are many different colours of clothing in this sector, but the dominant colour is white because this colour is usually connected with hygiene and cleanliness. Tabards and aprons are very popular often combined with short jackets.

The **health care and welfare sector** employed 16.6 million persons of which about 27% of the total workforce in this sector had employment in hospitals; many of them are nurses. Another 14% worked in other health care sectors like dental, veterinary etc. The welfare sector consisted mainly of workers in old people's homes and home help.

Nurse's apparel is made of conventional fabrics, since no specific requirement is needed other than comfort and durability and fabrics should as be as little "see through" as possible. Composite fabrics are used for protective clothing in isolation wards and intensive care units. More advanced technologies, like membranes, are used for woven fabrics with breathing properties as well as guaranteed impermeability for blood and body fluids, even after 75 washings. Applications are garments (aprons) for surgeons and dentists. Nurses' tunics and trousers replace dresses, the traditional colours like white in Germany and The Netherlands, just like blue in the UK, remained popular but are increasingly being replaced by colours, like: green, yellow, turquoise, pale grey and several blue colours.

Transport and communication covers public transport, like (national) railways, regional or local public transport (autobuses, trams etc.), post and telecommunications. An important number of the employees uses workwear, mostly uniforms. Wearers of workwear in road (cargo) transport are more limited. Post office and service uniforms have changed completely in some West European countries in the last decade, from traditional costumes of heavy fabrics to uniforms (incl. outdoor jackets, sweaters etc.) with a casual look, comfortable in working circumstances and enforcing the corporate image.

Public services include governmental and local authorities. The leading wearers of uniforms belong to this sector, namely defence, police, fire brigades, customs, prisons, etc. often combined with several kinds of protective equipment.

Financial services include among others banks, building societies, insurance and investment brokers. More and more banking companies introduce corporate wear for employees, in particular for counter/desk personnel, while business services include among others security companies (uniforms), car rental-services, other rental companies, cleaning companies etc. It should be noted that these companies cover only a small part of the broad range of service activities without any links to workwear or protective equipment.

Other services cover cultural activities as well as workers in theatres, movie houses, charity organisations, but also waste processing, sanitation.

The category **Other** includes, among others, domestic servants.

Number and gender of employees in end-user sectors

64.2 percent of the population aged 15-64 was employed. The employment rate was as high as 70 percent or more in Denmark, The Netherlands, Sweden and the UK. It was less than 60 percent in Belgium, Greece, Spain and Italy. 18.2 percent of employed

Table 3.8 Employees in major end-user sectors in EU and major countries, 2002 (in thousands)

	EU (15)	Germany	UK	France	Italy	Spain	Nether-lands
Agriculture etc.	**6,520**	**910**	**400**	**980**	**1,070**	**960**	**240**
Industry	**45,960**	**11,750**	**6,840**	**6,070**	**6,880**	**5,090**	**1,730**
-- Manufacturing	31,170	7,670	4,810	4,180	4,720	3,420	1,120
-- Electricity, gas, water supply	1,420	390	230	200	200	170	90
-- Construction	12,830	3,580	1,720	1,560	1,890	1,450	510
-- Other industry	540	110	80	130	70	50	10
Services	**110,500**	**23,620**	**21,110**	**16,840**	**13,810**	**10,190**	**6,210**
-- Wholesale and retail	25,110	6,150	4,390	3,380	3,020	2,040	1,450
-- Hotels and restaurants	7,340	1,390	1,280	1,370	1,180	970	330
-- Health care	16,590	3,510	2,810	2,500	2,320	1,510	1,025
-- Transports, communications	11,070	2,290	2,190	1,880	1,250	1,080	510
-- Financial intermediation	6,520	1,370	1,370	980	760	540	420
-- Business activities	14,240	2,600	3,020	2,210	1,700	1,330	970
-- Public services	13,260	3,170	1,890	2,140	1,750	1,290	610
-- Other services	16,370	3,140	4,160	2,380	1,830	1,430	895
Total employees	**162,980**	**36,280**	**28,350**	**23,890**	**21,760**	**16,240**	**8,180**
Male/female ratio							
Agriculture etc.	67/33	64/36	78/22	69/31	70/30	75/25	71/29
Industry	78/22	76/24	80/20	76/24	76/24	82/18	81/19
Services	48/52	45/55	46/54	46/54	55/45	51/49	49/51
Total	**57/43**	**55/45**	**55/45**	**55/45**	**62/38**	**62/38**	**57/43**

Source: based on Labour force survey 2002 by Eurostat

persons worked part-time in 2002. Part-time employment represented 33.5 percent of total female employment (from 8.1 percent in Greece to 72.8 percent in The Netherlands).

In the last decade, the number of employees in the services sector increased to the detriment of both other sectors. The difference in total expenditure of PPE between the two major EU countries Germany and the UK is mainly based on the number of employees in the industry and construction sector and, to a much lesser degree, agriculture, fishery etc. sectors.

The proportion in the EU workforce between male and female was 57/43 in 2002, while this ratio was 60/40 in 1998. The relation between men and women varies from 78/22 in the industrial and construction sector to 48/52 in the services sector. In the services sector, the ratio varies considerably: retail (40/60) and health care (25/75) against wholesale (70/30).

Types of products

Products can be divided according to their specific protective functions, like:

- Full-body protection covers a variety of clothing in several degree of protection and includes men's and women's traditional workwear (like boiler suits and coveralls; bib and brace; dust coats; jackets and trousers, aprons, nurses' uniforms), uniforms (outfits for military, police, fire and other public service institutions without specific protective functions), protective clothing (to protect the wearer among other factors against fire or heat, cold temperature, ballistics, radiation, bacterial and chemicals and also high visibility clothing, clean room, lint free and anti-static garments).
- Head protection includes helmets and headgear.
- Eye and face protection covers safety glasses, goggles and eye or face shields.
- Hearing protection: ear plugs and muffs.
- Air purification (breathing protection): several types of respirators and gas masks.
- Hand and arm protection covers a variety of products: from textile, leather or rubber gloves for industrial and household applications to gloves resistant to cut, heat, chemicals, cold etc.
- Foot and leg protection includes boots and shoes with steel toe caps and/or re-inforced soles and/or anti-slip soles.
- Descender devices (fall protection) include safety belts, harnesses, lanyards, safety nets, carabiners and hooks.

Types of products in end-user sectors

The most important categories of end-user sectors for PPE are the sectors manufacturing, construction, mining, agriculture and public services (fire-fighting, defence, police etc.), while for traditional workwear all categories are important. However, specific segments can be distinguished for the sectors retail, hotels/restaurants and health care with their own specific type of clothing, as can be derived from table 3.9.

3.3 Patterns and trends in industrial demand

The following developments are valid for the period under review:

- Change from uniforms to more casual fashion. Deutsche Post AG, the German postal service, is an example of the potential of corporate fashion today. Approximately 160,000 employees, including drivers and delivery personnel, wear a corporate design uniform. Their weather-protective clothing includes a new multi-functional anorak. Primarily, two jackets have been replaced by one: the windproof and waterproof, breathable outer layer protects against wind and rain, while the removable windproof and breathable fleece jacket not only keeps the wearer warm in really cold weather, but can just as easily be worn separately.
- Fashion influences (styles as well as colours) in workwear and in footwear. Demand for the traditional coverall or boiler suit decreased in favour of jacket and trouser or bib and brace combination. The use of thermal wear (body-warmers, waist coats, jackets incl. quilted jackets and anoraks) grew;
- Influence from competitive products, for instance the market share of competitive products like disposable clothing grew, mainly due to hygienic aspects;
- Corporate identity for medium and small enterprises can be obtained by choosing special (house) colours, fabrics and logos. In this case no special design or large quantities are necessary.
- Employees working in industrial sectors like service, maintenance, production, and logistics nowadays demand functional clothing. At the same time, companies need employees who can perform in order to maintain their competitiveness.

Trends for the coming years are:

- Increasing spending on fire fighting, catastrophe control and emergency services (terrorism).
- Manufacturing activities in industries will decrease further in favour of activities in the service industry.
- Total workforce will stabilise, while the number of female employees as well as part-time employees will increase. Workforce in several sectors will increase, especially in the retail sector (extended opening hours) and in the health and care sector (ageing population).
- Though current regulations now ensure high safety standards, their provisions are still comparatively low in respect to water-tightness and weather comfort. Improvements have been made in the comfort level of work shoes: shoes that guarantee dry feet even for those who regularly have to go from working in- to

Table 3.9 Usage of PPE by employees in various end-user categories in the EU

	Traditional workwear	Other protective clothing	Gloves	Footwear	Headgear	Breathing, eye and ear protection	Fall protection
Agriculture etc.	XXX	X	XX	XX	-	XX	-
Industry							
-- Manufacturing	XXX	XX	XX	XX	X	XX	-
-- Electricity, gas, water supply	XXX	XX	XX	XX	X	X	X
-- Construction	XXX	XX	XXX	XX	XXX	X	XX
-- Mining and quarrying	XXX	XX	XXX	XXX	XXX	XXX	X
Services							
-- Wholesale and retail	XXX	-	X	X	-	-	-
-- Hotels and restaurants	XXX	XX	X	X	-	-	-
-- Health care	XXX	XX	XXX	XX	X	-	-
-- Transport, communications	XX	-	X	X	-	-	-
-- Financial/business activities	-	-	-	-	-	-	-
-- Public services	XX	XX	XX	XX	X	XX	X
-- Other services	X	-	XX	X	-	-	-
Other	X	-	-	-	-	-	-

NOTES: - = none or very light usage; X = light usage; XX = medium usage; XXX = heavy usage

outdoors, like security personnel and delivery men.

- 'Softwear' has become the new keyword in workwear: new materials have been developed that have collectively become known as 'softshells'.
- Anti-microbial textiles have become an important issue in hygienic and healthy clothing.
- New processing technologies and equipment procedures are also part of the trend. Extended textile durability now stands in the forefront to meet the demands of leasing companies for industrial wear, cleaning and fabric care. Additionally, leading manufacturers are working on individually adjustable thermal insulation and elastic seams.

4 PRODUCTION OF PPE

This chapter will discuss the production of PPE in the EU and in the major EU countries. It should be noted that figures about production are not available for most of the PPE products. Delocalisation of workwear production by many EU manufacturers will be discussed in chapter 4.1.2.

4.1 Production of workwear and protective clothing

4.1.1 EU production of workwear and protective clothing

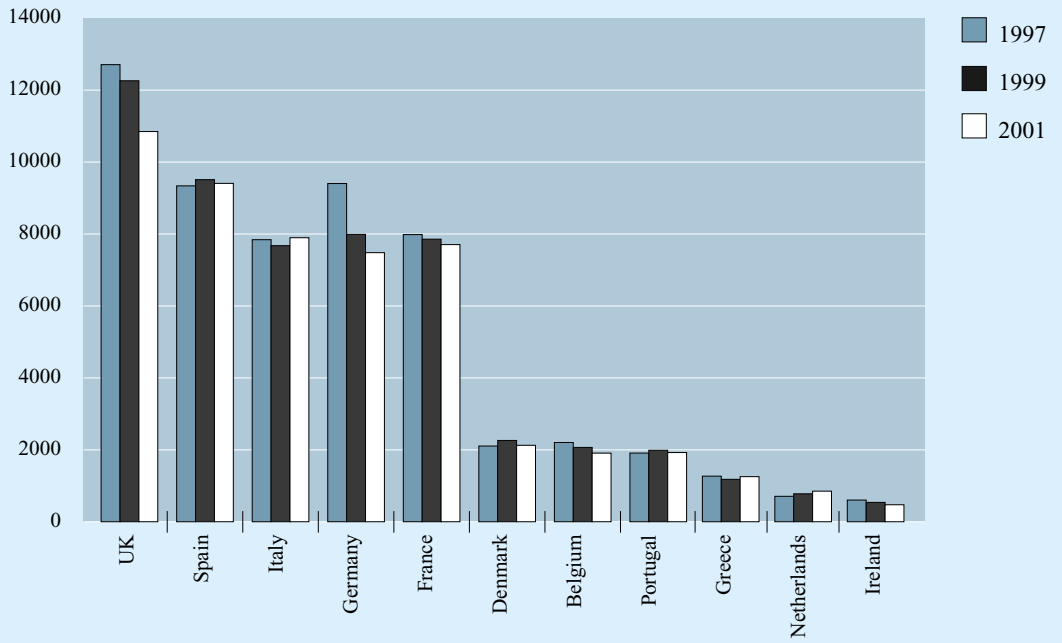
Production of workwear and protective clothing decreased in almost all EU countries in the period 1997-2001. Total production fell 3.4 percent from 53,370 tons to 51,540 tons in the period 1997-1999, while this fall was 4.0 percent in the period 1999-2001. There was an annual average fall of 1.8 percent during the whole period under review. The strongest falls were in UK, Ireland, Germany and France, while Italy improved its production. The UK has been the leading producer of workwear and protective clothing in the EU since 1994.

The most important company producing workwear and protective clothing in Europe is the Scandinavian Kwintet (former name Kansas/Wenaas). This group with a turnover of € 383 million in 2002 operates in 11 European countries and in the USA and includes among others brands like Fristads, Kansas, Wenaas, KLM Kleding, Adolphe Lafont and Hejco. Other important manufacturers in the EU are Alexandra Workwear (€ 117 mln in 2002) in UK; Berendsen Safety (€ 43 mln in 2002) in Sweden; Delta Plus Group (€ 91 mln in 2001) in France and Eurodress in Germany.
EU market leader in the sector protective clothing is Sioen Industries in Belgium (an integrated company with a total turnover of € 243 million in 2002), of which sales of the clothing division amounted to € 72 million. Many European manufacturers combine workwear and protective clothing.

4.1.2 Delocalisation of workwear production

The restructuring policy of many manufacturing companies in the EU during the last two decades led to relocation of the workwear production, mainly based on labour cost comparisons. The foreign policy of clothing companies takes many forms; most of the largest companies entered into joint ventures in low-cost countries or have built up their own factories abroad. Besides these forms of ownership structure, subcontracting forms an important part of activities of the EU clothing industry. It is possible to identify three basic concepts of subcontracting: Outward Processing Trade (OPT), Cut, Make and Trim (CMT) and Free on Board (FOB). Another possibility for EU manufacturing

Figure 4.1 Production of workwear and protective clothing in the EU, 1997-2001



Source: Eurostat

Table 4. 2 OPT in workwear by EU countries, 1999-2001 (in € '000)

	1999	2000	2001	The leading trade partners in 2001
Germany	96,741	72,380	78,364	Poland (23%); Slovakia (16%); Tunisia (14%); Czech Rep. (8%)
Denmark	39,468	34,169	34,210	Belarus (20%); Poland (20%); Ukraine (18%); Russia (17%)
France	13,381	12,606	24,226	Morocco (37%); Bulgaria (32%); Tunisia (15%); Romania (9%)
Sweden	10,198	11,898	14,188	Russia (63%); Ukraine (15%); Vietnam (12%)
UK	4,351	11,102	13,440	Indonesia (20%); Belarus (19%); UAE (18%); Morocco (16%)
Netherlands	11,720	12,948	11,381	Macedonia (42%); Belarus (27%); Hungary (21%)
Finland	2,679	3,299	4,569	Russia (94%)
Italy	3,775	3,656	4,526	Albania (46%); Romania (39%); Serbia Montenegro (8%)
Belgium	2,951	2,996	1,154	Bangladesh (31%); Poland (24%); Albania (16%)
Greece	1,906	882	1,047	Bulgaria (57%); Macedonia (22%); Serbia Mont. (21%)
Austria	4,232	705	633	Czech Rep. (59%); Slovakia (38%)
Other (4)	199	66	60	Slovakia (66%); Bulgaria (34%)
EU (15)	**191,601**	**166,707**	**187,798**	**Poland (14%); Russia (11%); Tunisia (8%); Ukraine (8%); Slovakia (7%)**

Source: Eurostat

companies is sourcing abroad, mainly for additional products to their own product range.
In the case of OPT, the most labour intensive piecework such as sewing and packing has been relocated. However, for the sake of quality control, the whole handling of fabrics is retained in the EU home country. The same goes for the quality control and the distribution to the customer. Basically spoken, EU fabrics, cuttings or semi-finished garments are exported to low-wage countries, which make them up into finished garments for re-import into the EU.
EU OPT for workwear increased 12 percent to € 187 million in 2001 after a fall in the previous year of 13 percent. OPT appeared to constitute 14 percent of EU workwear imports in 2001, whereas it had accounted for some 23 percent in 1997. This change is mainly due to the fact that, since 1 January 1998, all textile and clothing imports from the CEECs have been liberalised, and OPT is no longer necessarily statistically recorded as such.

German and Danish manufacturers mainly use OPT for workwear. The delocalisation of workwear production in the eighties to Tunisia and Morocco was followed by an increasing trade with CEECs, like Poland, (former) Czechoslovakia, Bulgaria and Hungary. Since the mid-nineties, 'new' countries in CEECs, like Russia, Ukraine, Slovakia, the Baltic states (Lithuania, Estonia), Macedonia, Albania, Belarus and to a lesser degree Asian countries (Vietnam, Pakistan etc.) have also become trading partners. For some decades, close relations have been valid (based on historical links) for France and Morocco, Germany and Tunisia, The Netherlands and former-Yugoslavia. These relations are more and more being replaced by relations based on economic aspects like labour costs, distances and other factors.
CMT indicates a further step in the relocation. Here the whole manual production has been relocated, through the material purchase is held on to for efficiency and quality reasons. The quality control has been relocated too and is typically managed by travelling controllers.
The next step in relocation is often called **FOB**. Suppliers abroad receive complete specifications for the design, quality of the fabric, accessories and other materials etc. Subsequently, the suppliers manage the purchase of the materials themselves. This form is most usual for importers/wholesalers but only a minority of the manufacturing companies.

The form of CMT is frequently employed in an estimated 50 percent of the clothing companies in countries like Sweden, Denmark, The Netherlands and Germany; the OPT form (mainly with CEECs) is used by 30 percent and FOB accounts for about 20 percent in the four countries mentioned. The foreign policy gives EU manufacturers the possibility to maintain control over the management and quality of the outsourcing operations and to respond quickly to changing market demands.
When products from foreign production, subcontracting and sourcing are imported, this occurs under a regime of direct imports with trade restrictions, which will be discussed in chapter 5. The garments produced under OPT restrictions are re-imported free of quotas and tariffs into the EU for the countries in question.

4.1.3 Production of workwear and protective clothing in EU countries

Germany

The number of manufacturers of workwear in Germany declined strongly in the last decade, just like the domestic production, which is shifting towards highly specialised products or technical apparel.
According to Textil Wirtschaft, 110 manufacturers were active in 2002. This figure included daughter companies of national and more important international operating companies like Kwintens, Van Puijenbroeck and Alexandra.
Most German manufacturers have their own manufacturing facilities abroad, import via sub-contracting including the OPT route (mainly CEECs and Mediterranean countries) or source products (Asia).
An estimated 25 percent of German workwear sales is accounted for by just four major German companies: Eurodress (acquired Marquardt & Schultz Workwear in 2002), Bierbaum-Proenen, DK-Profashion and Paul H.Kübler. Other important manufacturers, which have workwear in their assortment, are: Ahlers (brand names Pionier and Solida); Greiff Mode; Ascento; Carl A.Fischer, Wilhelm Merk and A. Sorg.
Specialised in protective clothing are Köninger, Wolfgang Mauser (part of Asatex), HB Schutzbekleidung, Kind and Alwit (heat- and cut-resistant clothing and gloves).

UK

Major producers of workwear in the UK besides Alexandra Workwear are Dickies, Faithfull, Edward Mc. Bean and Mayo Workwear. Most of these companies have a limited or extended (in the case of Mc. Bean) protective clothing production. The heat-resistant clothing specialised manufacturer is W.G. Eaton.

Spain

The manufacturing industry in Spain consists of companies that manufacture only in the traditional workwear sector, another part is involved in more than one sector but there are no suppliers, which offer a full range of manufactured protective equipment. Spanish professional clothing manufacturers are José de la Cruz, Sibol, Confecciones Este, Oroel, Samisa, Disman la Mancha, Choiva, Obrerol, Peycar, Pontevedra, Prendas Industriales Juanju and Urvina. Deinsa is also a producer of safety footwear.
Itturi Industrial Group, is besides a professional clothing manufacturer, also a manufacturer of footwear and gloves and distributes the complete PPE range.

Italy

Many manufacturers of workwear operate in Italy, but most of them are small and medium-sized enterprises (SMEs). The most important manufacturers are Adda, Grassi Alfredo, Mario de Cecco, Siggi Confezioni and Gruppo Loyal.

France

French manufacturers of protective clothing are often specialised in products for specific industries like forestry (SIP Protection), aluminium industry (EPI) and food processing industry (Metal Chainex). A broad range of protective clothing is offered by CIN (part of the Belgian Sioen Group). Delta Plus is a manufacturer of protective clothing, which operates as distributor of the whole PPE range, mainly imported from UK.

The Netherlands

The number of manufacturers, operating in the workwear and protective clothing sector, amounted to around 30 companies in 2002. Most of them have activities abroad through exports or (sales) companies, like EHCO-KLM, Van Puijenbroeck, de Berkel, just as foreign producers have a Netherlands office, like: Alexandra (which originated in the UK), Faithful (UK), Snickers (Sweden) and Alsico (Belgium). Other important manufacturers are KCFS, Hensen and Prof Tech Styles. Sales by the Netherlands industrial clothing industries, including production which has been produced abroad under contract for Netherlands companies, fell by almost 5 percent in 2001 to € 86 million, of which more than 75% went to the domestic market.

Other suppliers of protective clothing

Specialists in protective clothing in Belgium are: Sioen Industries Groep, Seyntex, Vandeputte and Deweer Security; in Denmark: Engel; in Ireland: Megal Protective Clothing, O'Gorman & Son and Westport Clothing; in Sweden: Snickers and Tegma; in Finland: Tukku Tuote Oy; in Portugal: Sintimex and Synfiber; and in Norway: Öglaend Pioner.

American companies with locations in several EU countries among others are Kappler with protective clothing, Aearo with safety products for industry and health care, 3M with products for respiratory protection (including Racal Health and Safety) and high-visibility clothing, MSA with a full range of PPE and the Kimberley Clark Corporation, which offers disposable protective clothing, mainly complete body-covers.
It has to be noted that the list of companies mentioned above (just like in other chapters) is non exhaustive!

4.2 EU production of other PPE

4.2.1 Introduction

Most of the manufacturers of PPE are specialists in only one product group. However, a small number of companies make a range of different product groups. The need for offering a complete 'from top to toe' range to the clients is filled in by purchasing from other

companies and taking the position of distributor or re-seller. Many companies operate worldwide and have sales offices or establishments in often more than one (EU) country. Sales policy can be focussed on one or more sectors (health, building etc.). Only a few manufacturers and/or distributors serve all end-users in the varying sectors.
Besides manufacturers, a lot of wholesalers are active in each of the EU countries. Their assortment is built up from collections of several domestic and foreign manufacturers; this will be discussed in chapter 7.
Leading suppliers with world wide or pan-European activities and a fairly complete assortment are Bacou-Dalloz and Delta Plus (both from France). The consolidated turnover in 2002 of Bacou was € 878 million and for Delta Plus € 90 million. The Bacou-Dalloz Group operates with brands like Uvex for eye protection; Perfect Fit for hand protection; Miller for fall protection and Howard Leight for hearing protection.
German companies in the PPE sector, like Dräger Safety (respiratory protection equipment) and Schuberth (helmets) operate world-wide. On the other side, many companies with headquarters in other countries have operations in Germany like Sabre Protector Group, Comasec, Mapa Professional, Pulsafe Group, Aearo Group, Bacou-Dalloz, Bata and Jalatte. Most of these internationally operating companies work under other (German) names in Germany, unlike countries such as the UK, France and The Netherlands.

4.2.2 Safety footwear

Italy is Europe's largest producer of footwear (ahead of Spain and France) and fifth largest in the world. Italian production of safety footwear was about 41 million pairs in 2002, while France produced 9 million and Germany 3 million pairs. Other countries with safety footwear production are the UK and to a lesser degree The Netherlands, Portugal, Spain and Belgium.
Specialised producers of safety footwear are among others:
FTG, Cofra, Panda, Pezzol, Safetech Footwear, Almar, Calzaturifisco Giasco and Astra in Italy;
Jalatte, Baudou, Lemaître Sécurité, Boss Industrie, Chaussure Mardon and Delta Plus in France;
Atlas, van Elten, Herkules, Werner and Baak in Germany;
Model's Safety Footwear, the leading UK manufacturer Totectors expanded its assortment with other PPE products, just like C.W.S. Goliath and Tuf Work and Safety Wear in the UK.
Bata Industrials, Gerba and Emma in The Netherlands;
Calseg, Calzados del Cidacos, Calzados Trueno, Garmaryga, Calptesa and Calespro in Spain

4.2.3 Protective gloves

No statistics are available on the production of protective gloves. However, EU production of industrial gloves is not very big. The types of gloves which are produced fall into the category of the more expensive quality gloves. Apart from general industrial gloves, speciality items are produced, such as surgeon's gloves and heat-resistant gloves.
Specialised manufacturers are the Australian company Ansell Edmont with offices in UK for gloves and Mapa Professional (UK). KCL (Kächele Cama Latex) is the leading German manufacturer.
Other manufacturers are Van Wee in The Netherlands; John Ward and Bennett Safetywear both in the UK; Guyard, Provocès, Riby and Espuna in France.

4.2.4 Air purification (respiratory), eye and ear protection

An important specialised manufacturer for respiratory protection (equipment, masks) is Dräger Safety from Germany. Another specialised company is Dalloz Safety GmbH (former name Bilsom International and now part of Bacou-Dalloz SA), which makes products for respiratory protection, eye protection and hearing protection. The main competitors of Dräger and Bacou-Dallaz are world-wide: Tyco (including Scott and Sabre), MSA/Auer and 3M.
A manufacturing company in The Netherlands, in particular welders' goggles and face shields, respiratory protection, hearing protection and helmets is Arkon/Focus Veilig.
Comasec makes respiratory protection in France, Fondermann (eye and face protection), Interspiro (respiratory protection), Moldex-Metric (respiratory and hearing protection) and Schmerler (eye protection) in Germany. UK companies with activities in many European countries are Racal Health & Safety (respiratory protection, part of 3M), Pulsafe (respiratory protection and eye protection, part of Bacou-Dalloz), Protector Sabre (part of Scott Health & Safety) and Centurion Safety Products & Martindale (these companies have products for eye, hearing, breathing and head protection).
The leading Spanish manufacturer in the respiratory sector is the internationally operating Aearo Proteccion Laboral and manufacturers of eye and ear protection in Spain are: Productos Climax, Medop, Saborit, Sibol and Vispro Protection.

4.2.5 Safety headgear

Specialised manufacturers in safety headgear are Schuberth Helme GmbH (Germany); JSP is the leading manufacturer of helmets in the UK and also manufactures respiratory and ear protectors; Helmet Integrated Systems and Hogarth Safety (both in the UK).

5 IMPORTS OF PPE

5.1 EU imports

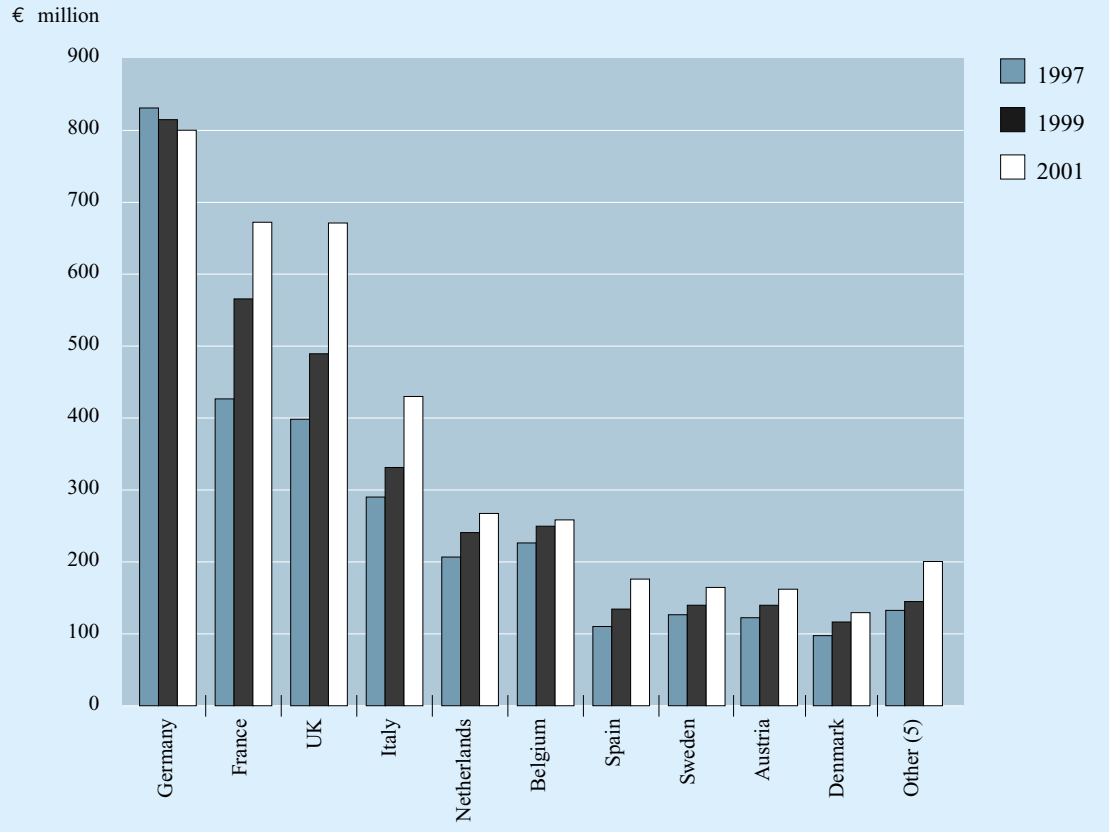
Before we take a look at the import figures for PPE into the EU, it should be noted that all data presented in this chapter are official trade figures provided by Eurostat. We therefore refer to the remarks in chapter 2, explaining that official statistics are not always all embracing and should be interpreted with care. Figure 5.1 covers imports for the period 1999-2001.
Total EU imports of PPE rose from € 3.3 billion in 1999 to € 3.9 billion in 2001 (+17%). Imports increased in terms of volume by 10 percent to 462 thousand tons in 2001, which indicated that average import prices increased 6 percent in the period 1999-2001.
Germany remained the leading importer, with an import share of 21 percent in terms of value, followed by France (17%), UK (almost 17%), Italy (11%) and Belgium (almost 7%). The Netherlands (almost 7%) ranked sixth, followed by Spain (5%) and Sweden (4%).

EU imports increased strongly (+ 16%) in the period 1999-2001, primarily in 2000. EU countries can be divided, according to developments in value of imports during this period, into:

- Decreased imports in Germany (-2%);
- Very slowly growing imports in Belgium (+2%);
- Growing imports (growth between 10 and 16%), but under the EU average growth, in The Netherlands, Sweden, Austria and Denmark;
- Fast growing imports (growth between 16 and 25%) above the EU average in France and Greece;
- Booming imports (growth more than 25%) in Italy (+30%), Finland (+33%), Spain (+34%), UK (+35%), and Ireland (+36%).

This strong variation in developments in imports of PPE per EU country depends on several factors like size and structure of domestic production of PPE, the possibilities and size of re-exports, developments in demand (end-users) as described in chapter 3.1. Nearly all EU members have a substantial own production of (safety) footwear, headgear, glasses and breathing appliances. Import shares for these product groups are

Figure 5.1 EU imports of PPE by country in terms of value, 1997-2001



Source: Eurostat

Table 5.1 EU imports of PPE by product group in terms of value, 2001

		Imports of product groups in % of total imports value:					
	Euro (€) million	Clothing	Footwear	Gloves	Headgear	Glasses	Breathing appliances
Germany	797	42	12	32	6	4	4
France	664	40	10	27	11	5	7
United Kingdom	660	29	15	29	10	8	9
Italy	430	27	17	37	6	6	7
Netherlands	265	38	10	33	6	6	7
Belgium	259	35	10	38	8	6	3
Spain	175	24	6	43	10	8	9
Sweden	161	46	13	23	8	4	6
Austria	158	30	10	38	10	8	4
Denmark	137	48	14	22	7	3	6
Other (5)	200	36	15	29	9	6	5
EU (15)	**3,906**	**36**	**12**	**32**	**8**	**6**	**6**

Source: Eurostat

Table 5.2 Imports of PPE into the EU by area of origin, 1997-2001 (in € million)

	1997 € mln	1999 € mln	2001 € mln	Change in % 2001/1997	2001/1999
Total imports	**2,969**	**3,348**	**3,906**	**+ 32%**	**+ 17%**
of which from:					
EU (15)	**1,107**	**1,214**	**1,310**	**+ 18%**	**+ 8%**
Developing countries:					
- ACP	11	12	11	+ 0%	- 6%
- Central & East Europe	55	54	66	+ 20%	+ 22%
- Mediterranean	296	346	414	+ 40%	+ 19%
- Asia	901	948	1,220	+ 35%	+ 29%
- Central & South America	10	10	12	+ 23%	+ 24%
- Other developing countries	2	3	3	+ 34%	- 12%
Total developing countries	**1,275**	**1,373**	**1,729**	**+ 36%**	**+ 26%**
Other countries:					
- Western Europe	16	16	27	+ 68%	+ 76%
- Central & East Europe	305	437	531	+ 74%	+ 22%
- North America	128	148	135	+ 5%	- 9%
- Asia	134	155	165	+ 23%	+ 7%
- South America	4	5	8	+ 88%	+ 54%
Total other countries	**587**	**761**	**866**	**+ 78%**	**+ 14%**

Source: Eurostat

Table 5.3 Leading (10) supplying countries of PPE to the EU ranking in terms of value, 2001

	Total PPE	Workwear	Protective gloves	Safety footwear	Protective Headgear	Protective glasses	Breathing appliances
1	China	Tunisia	Malaysia	Italy	Italy	China	USA
2	Malaysia	China	China	Tunisia	Japan	Taiwan	UK
3	Tunisia	Poland	Thailand	China	Germany	USA	Germany
4	Italy	Morocco	Belgium	France	China	Germany	France
5	Belgium	Belgium	India	Germany	France	France	Netherlands
6	Germany	Slovakia	Sri Lanka	India	South Korea	UK	Ireland
7	France	Czech Rep.	Pakistan	Portugal	Taiwan	Japan	Italy
8	UK	Bulgaria	UK	Netherlands	UK	Belgium	Sweden
9	Thailand	Romania	USA	Finland	Spain	Italy	Spain
10	India	Germany	France	Spain	Sweden	Austria	Finland

Source: Eurostat

much lower than for the remaining groups. Gloves, in particular made of rubber, came from countries with low-labour costs and often with production at a short distance from the source of rubber. At the same time, the relatively high share in the cost of clothing resulted in a high percentage of re-location of production, with the exception of southern countries, like Portugal, Spain, Greece and Italy.

EU imports by area of origin

The role of developing countries increased considerably and the difference between imports from these countries and intra-EU trade as well as from other area outside the EU became much bigger: 52 percent of the volume and 44 percent of the value of EU PPE imports came from developing countries in 2001.

Imports from EU countries grew slowly and much less than the average growth. Imports from ACP countries (mainly workwear from Madagascar, Mauritius and South Africa decreased. The biggest increase was for developing countries in Asia, Central and Eastern Europe and South America, although total imports from the latter were very limited.

Imports from 'other countries' showed a smaller growth than the (total) average in the period 1999-2001, however, with big differences between the several areas. Imports from other West European countries, CEECs and South America increased considerably while imports from Asian (not classified as developing) countries grew slowly and far below the average growth, while imports from the USA and Canada even decreased.

The EU's leading suppliers of PPE in 2001 in terms of value were: China (9%), Malaysia (8%) and Tunisia (7%). Five EU countries followed the top three: Italy, Belgium, Germany, France and United Kingdom. Thailand remained the EU's 9th supplier of PPE ahead of India and the USA. Other sources of imports from outside the EU were Poland (12th), Morocco (14th), Pakistan (15th), Japan (16th), Sri Lanka (17th), Czech Republic (18th) and Slovakia (19th). The ranking of the 20 leading suppliers of PPE to the EU was just the same as in the previous year.

Imports from nearly all-leading countries increased in the period 1999-2001 in (absolute) terms of value except imports from Belgium, France, The Netherlands, USA and Sri Lanka.

5.2 Imports by product groups

EU imports of all categories of PPE increased in the period 1999-2001 in terms of volume (tons) and of value, respectively by 15 and 16 percent, which indicates 1.3 percent higher import prices. Import prices of workwear (including protective clothing) and breathing appliances increased in the period under review, while the other categories showed a decrease. Total imports rose strongly in volume in 2000 (+13%) caused by all product categories, while growth in 2001 was limited to 2 percent. A large proportion of workwear imports results from CMT and they tend generally to be low-priced items.

Table 5.4 EU imports of PPE by product type in volume and value, 1999-2001

	2000		2001		2002	
	'000 tons	€ million	'000 tons	€ million	'000 tons	€ million
Workwear and protective clothing	79.8	1,175	86.3	1,332	88.9	1,393
Other protective equipment:						
- footwear	29.3	377	36.2	457	37.4	480
- gloves	292.0	1,089	308.3	1,213	305.0	1,230
- headgear	8.5	286	13.7	361	12.5	328
- glasses	6.7	206	7.8	237	9.5	229
- breathing appliances/gas masks	4.6	215	5.4	272	9.4	246
Total PPE	**420.9**	**3,348**	**457.7**	**3,872**	**462.7**	**3,906**

Source: Eurostat

5.2.1. Workwear and protective clothing

Germany again consolidated its leading position as an importer of workwear and protective clothing in the period under review. Nevertheless, the German imports share decreased considerably in terms of value and in volume. France retained its second position after Germany; however, the distance between these countries became much smaller. The Netherlands ranked fifth after the UK and Italy, despite the rather low re-exports of workwear by this country (compared with casual wear, underwear, footwear etc.). Belgium ranked sixth before Sweden and Denmark.
Two-piece worksuits or ensembles cover hotel and catering tunics as well as health-care tunics, while overalls cover bib 'n braces in the import statistics. The category "other woven workwear" consists of products like coveralls, aprons, tabards, waistcoats etc.
Imports of women's workwear increased more strongly than men's workwear in terms of volume against higher average import prices. Average import prices of men's workwear increased by 4.4 percent and for women 13.5 percent in the period 1999-2001.
The number of female employees increased just like the import share of workwear for women. It proves that differences in workwear between sexes became more visible, in addition to the unchanged position of the

Table 5.5 EU imports of workwear and protective clothing by country, 1999-2001

	2000		2001		2002	
	tons	€ million	tons	€ million	tons	€ million
Germany	23,630	354	22,060	344	22,154	332
France	14,779	210	17,126	245	18,004	264
United Kingdom	6,246	103	7,329	154	8,,781	190
Italy	7,863	86	8792	106	9,617	118
Netherlands	6,052	90	6,,854	106	6,694	100
Belgium	5,442	82	6516	96	5,772	90
Sweden	3,708	65	3,972	74	4,096	74
Denmark	4,764	63	4,590	61	4,346	67
Austria	2,216	44	2,319	44	2,223	47
Spain	2,637	28	3,139	40	3,288	42
Other (5)	2,415	50	3,618	62	3,899	69
EU (15)	**79,752**	**1,175**	**86,315**	**1,332**	**88,874**	**1,393**

Source: Eurostat

Table 5.6 EU imports of workwear and protective clothing by product type in volume and value, 1999-2001

	1999		2000		2001	
	'000 tons	€ million	'000 tons	€ million	'000 tons	€ million
By type of clothing						
Two-piece work suits	2.3	39	2.5	44	3.7	60
Jackets and blazers	10.2	174	10.9	198	10.9	201
Trousers and breeches	19.6	313	21.5	344	22.5	358
Overalls	10.9	145	10.2	148	10.3	143
Other workwear	36.6	504	41.2	598	41.9	631
Total	**79.7**	**1,175**	**86.3**	**1,332**	**88.9**	**1,393**
By sex						
- for men or boys	64.9	953	69.5	1,054	70.8	1,085
- for women or girls	14.8	222	16.8	278	18.1	308
Total	**79.7**	**1,175**	**86.3**	**1,332**	**88.9**	**1,393**
By materials used						
- cotton	45.7	584	47.1	646	48.3	668
- synthetics	17.2	308	18.8	346	19.7	366
- artificial	1.0	23	1.1	26	0.9	22
- man-made fibres	15.8	260	19.3	314	20.0	337
Total	**79.7**	**1,175**	**86.3**	**1,332**	**88.9**	**1,393**

Source: Eurostat

traditional unisex products. The strong position of cotton stabilised; 54 percent of EU workwear and protective clothing imports were cotton-made, while this percentage was still 57 in 1999.

EU imports increased considerably in volume (in weight an average of almost 6 percent annually) against 3 percent higher prices. The development in total (average) import prices showed the following decrease: in 1999 € 14.74 per kg and € 15.67 in 2001. This development in import prices is valid for all major product categories; however, import prices of cotton workwear increased to a lesser degree than prices of workwear of man-made fibres.
Workwear imports came for 44 percent (in terms of value) from developing countries, of which almost half from Mediterranean countries (Tunisia and Morocco), while 39 percent originated in Asia (China). However, the import share from the Mediterranean Rim decreased, while imports from Asian developing countries increased considerably. An increasing share of 31 percent of total EU imports of workwear came from (non-developing) Central and East European countries (Poland, Slovakia, Romania, Czech Republic and Bulgaria). The role of EU countries was limited Germany, Denmark and The Netherlands were the leading suppliers of workwear to other EU countries. Total imports of these three countries accounted for 7 percent, of which Germany 3 percent and the other 2 percent.

5.2.2 Footwear

EU imports of protective footwear came for 54 percent (in terms of volume) from other EU countries in 2001, this share having been 61 percent in 1999.
Footwear with uppers of leather accounted for 89 percent in volume and 92 percent in value of total EU imports. Italy remained the leading supplier (8.6 million pairs or almost 32 percent of total imports) followed by Tunisia (24%), China, (8%), France (7%) and India (5%) in 2001. Average import prices decreased in this major product category of protective footwear in the period 1999-2001: the EU import price in 2001 amounted to an average of € 16.11 per pair (in 1999: € 17.43). Average import prices from Italy were € 14.59, from Tunisia € 11.87, from China € 18.23, from France € 19.98 and from India € 13.00.
Waterproof protective footwear came mainly from other EU countries in the period under review. Leading EU suppliers in 2001 were The Netherlands, Italy, Portugal, Germany, France and Spain.

Table 5.7 EU imports of protective gloves by type of materials used (million pairs), 1997-2001

	Rubber Surgical	House-hold	Other	Total rubber	Leather	Cotton	Total gloves	% change
1997	1,712	489	1,193	3,394	322	145	3,861	-
1998	1,735	470	1,423	3,628	347	141	4,116	+ 6.6%
1999	1,782	494	1,582	3,858	341	151	4,350	+ 5.7%
2000	1,701	459	1,826	3,986	354	176	4,516	+ 3.8%
2001	1,803	542	2,152	4,497	336	174	5,007	+10.9%

Source: Eurostat

5.2.3 Headgear

The EU average price of total EU imports of plastic helmets amounted to € 12.84 (in 1999 € 14.00). Italy remained the leading supplier in 2001 with 4.1 million units (22%). Average import prices of plastic safety helmets from the leading exporting countries to the EU varied from € 4.24 (China) and 7.50 (Taiwan) to 14.05 (Germany) and 19.92 (Italy). Prices in 2001 were about 8 percent lower than in 1999.
Helmets made of materials other than plastic came in the first place from Italy: 480 thousand units with an average import price of € 40.23, followed by China (257 thousand units; import price € 11.21) and Taiwan 245 thousand units; import price € 11.03). Much smaller quantities but against much higher prices came from Japan and the USA. This category includes a variety of materials used, which resulted in big differences in average import prices.

5.2.4 Gloves

Developing countries dominated EU imports of protective gloves. 73 percent of the total 5.0 billion pairs came from developing countries. This percentage is the same as for imported rubber gloves, namely 73 percent of 4.5 billion pairs. Malaysia remained by far the most important supplier followed by Thailand, Sri Lanka, China, Indonesia and Belgium.
Asian countries also dominated EU imports of leather protective gloves. China exported 183 million pairs to EU countries with an average price of € 0.66, followed at distance by India (60 million pairs at an average of € 1.16) and Pakistan (43 million pairs, average € 0.91). Cotton knitted gloves impregnated, coated etc. with rubber came for 20 percent from Belgium (average price € 1.64) and almost the same volume came from Sri Lanka (average price € 0.82), China ranked third with 9.4 million pairs at € 0.68 followed by Tunisia and Malaysia.
Imports of cotton knitted gloves, mittens and mitts coated etc. with plastic came from China (13.9 million pairs at an average price of € 0.57), Pakistan (12.6 million pairs at an average import price of € 0.54). Hong Kong and South Korea exported respectively 8.0 million (€ 0.47) and 7.9 million pairs (€ 1.44) to the EU and Sri Lanka 6.4 million pairs (€ 0.76).

5.2.5 Protective glasses

Plastic glasses accounted for 65 percent of EU imports of this product group and came mainly from China (22%), Taiwan 17%), Germany (9%), USA and Austria (each country 5%), and Italy (4%).
Protective glasses of materials other than plastic came from China (28%), USA (15%), Taiwan (12%), France (5%), Switzerland (5%), and Italy (4%).

5.2.6 Breathing appliances

Leading suppliers of full breathing appliances and gas masks for civil aircraft were USA (29% of EU imports in terms of value), South Korea (12%), Hong Kong and France (each country 7%) and Germany (5%).
Leading suppliers of other breathing appliances and gas masks were USA and United Kingdom (each country 18%), Germany (15%), France (9%), The Netherlands (8%) and Ireland (6%).

5.3 The role of developing countries

5.3.1 Introduction

The role of developing countries in imports into the EU varies strongly per product group as can be seen in table 5.8. The import share in the product group workwear/ protective clothing decreased, the product group protective gloves remained stable and the role of developing countries in the other product groups: protective footwear, protective headgear, protective glasses and breathing appliances became more important.

5.3.2 Workwear and protective clothing

In the product group workwear and protective clothing, 44 percent (in terms of value) of EU imports came from developing countries in 2001, of which 51 percent from the Mediterranean Rim (mainly Tunisia and Morocco) and 39 percent from Asian countries (China, Pakistan and to a much lesser degree from India, Vietnam, Sri Lanka and Bangladesh). However, the import share of Mediterranean countries decreased by 23 percent, while

Table 5.8 Share of developing countries in EU imports, 1997-2001 (in % of value)

	1997		1999		2001	
	in % of total imports	in % of extra-EU imports	in % of total imports	in % of extra-EU imports	in % of total imports	in % of extra-EU imports
Workear/protective clothing	45	61	47	61	44	56
Gloves	68	87	65	86	67	87
Footwear	19	76	26	79	34	85
Headgear	5	14	8	23	14	34
Glasses	18	28	22	34	31	47
Breathing appliances	2	8	2	7	3	10
Total PPE	**39**	**62**	**41**	**64**	**44**	**67**

Source: derived from Eurostat

imports from Asian countries increased by around 66 percent in the period 1997-2001.

Germany

The leading role in German imports of workwear and protective clothing was noted for (non-developing) Central and East European countries, like Poland (the leading supplier for many years to the German market), Slovakia, Czech Republic, Ukraine, Bulgaria and Hungary.

Just like total imports in the period 2000-2001, imports from developing countries decreased too showing a fall of 3.4 percent in value or a fall of 2.6 percent in volume against 0.7 percent lower import prices. The import share of developing countries stabilised at 37 percent during 2000-2001. Imports from developing countries in Central and Eastern Europe (despite a slight fall of imports from Macedonia and Slovenia but imports from Bosnia & Herzegovina and Serbia Montenegro increased strongly) increased by 5 percent, while imports from Asian developing countries (India and Pakistan but not China) fell by the same percentage, just like imports from the Mediterranean (Tunisia and Turkey but not Morocco) in the period 2000-2001. The role of ACP countries decreased from € 0.9 million in 2000 to 0.6 million in 2001, with products coming mainly from Zimbabwe.

France

France is the most important country in the EU concerning imports from ACP countries, however, in the product group workwear and protective clothing this concerns for 84 percent one country, namely

Table 5.9 Imports of workwear from area of developing countries in value, 2001 (in € mln)

	Total developing countries	ACP-countries	CEECs	Mediter-ranean	Asia	Other
	€ million	In %	in %	in %	in %	in %
EU	**618**	**1.5**	**8.1**	**51.0**	**39.0**	**0.4**
France	175	4.0	0.1	86.6	9.3	-
Germany	125	0.5	21.0	40.2	38.1	0.2
Italy	68	-	6.4	34.7	58.9	-
UK	75	1.2	1.3	52.4	44.8	2.3
The Netherlands	57	0.9	25.4	33.7	39.9	0.1
Spain	42	-	0.0	17.7	82.3	-
Other (9)	76	0.2	3.0	25.5	71.2	0.1

Source: derived from Eurostat

Madagascar. The remaining part came mainly from Mauritius. 48 percent of French extra-EU imports came from Tunisia. Together with Morocco, these countries covered 72 percent of total imports from outside the EU in 2001. Other suppliers from developing countries (imports per country of more than € 2 million) were Madagascar with € 5.9 million, Macao € 4.7 million, India € 4.3 million, China € 4.2 million and Pakistan € 2.4 million. Important suppliers other than developing countries were mainly CEECs like Bulgaria, Slovakia, Romania, Czech Republic, Turkey and Poland.

UK

Workwear and protective clothing imports from developing countries into the UK increased from 54.4 in 2000 to 74.8 million in 2001. The import share of developing countries, however, stabilised at about 39 percent of total imports, despite the fact that imports from developing countries in the Mediterranean (mainly Tunisia and Morocco) increased considerably to € 39.2 million, while imports from Asian developing countries fell from 44.3 percent in 2000 to 42.8 percent in 2001, despite a strongly increased imports from China. Imports from (other than developing countries) CEECs came mainly from Poland (21% of total UK imports). The role of ACP countries became less important and mainly concerned Belize.

Italy

Asian developing countries dominate Italian imports from developing countries (China, India, Pakistan, Thailand etc.) despite the fact that in 2000 almost 64 percent of total imports from developing countries came from Asia and in 2001 this percentage was almost 59 percent. Imports from all countries mentioned decreased. Mediterranean countries (mainly Tunisia) improved their position, despite a slightly fall of imports from Tunisia. Imports from developing CEECs, like Albania and to a lesser degree Serbia Montenegro increased too but remained limited.
Italian imports increased mainly because imports from (other than developing) CEECs, like Romania, Bulgaria and Poland grew. Romania passed Tunisia and China and became the leading supplier to Italy in 2001.

The Netherlands

The leading supplier of workwear and protective clothing to The Netherlands remained Tunisia since 1997, however, its import share fell steadily: from 23 percent of total imports in 2000 to 18 percent in 2001 Macedonia ranked second with 15 percent before Latvia and Sri Lanka. Other suppliers from developing countries (value more than US$ 1 million) were China, Vietnam, Laos and India. Other than developing countries in this category were besides Latvia: Hungary, Poland, Belarus and Bulgaria. Imports from Tunisia, Laos and Egypt showed the biggest fall, while imports from Sri Lanka, China, Vietnam and India increased.

Spain

China dominate Spanish imports from developing countries; 48 percent of total imports from developing countries came from this country. Other Asian suppliers of the Spanish workwear market were Indonesia, Vietnam, Cambodia and Pakistan. Imports from all these countries increased. Mediterranean countries (mainly Morocco) improved their position too. Imports from Morocco increased from 5 percent in 1999 of total imports to 13 percent in 2001. There were no imports from developing countries in other area.

5.3.3 Safety footwear

The role of developing countries in EU imports of protective footwear became rather more important: in 1999 about 26 percent of total imports came from developing countries, in 2000 it was 30 percent and in 2001 this had risen to almost 34 percent.
EU imports of safety footwear from developing countries came for 50 percent from the Mediterranean Rim, mainly Tunisia (88%) and for 43 percent from Asian countries, mainly China (57%), India and Indonesia. Imports from developing countries in Central and Eastern Europe (mainly Slovenia) increased, just like imports from some other countries in this area (Romania and Poland), while imports from Hungary and Slovakia decreased.

Germany

Imports of safety footwear from developing countries were rather limited in German imports in 1998; only 3 percent. In the period 1998-2001, imports from developing countries grew from € 3.0 million in 1998 to € 12.9 million in 2001 (an import share of 14%), of which Slovenia was the largest exporter to Germany with € 5.3 million in 2001, followed by China (€ 4.1 million).
Important were imports from other than developing CEECs, like Slovakia (the leading supplier from outside the EU with € 5.7 million), Hungary, Croatia and Moldova.

France

French imports from developing countries of safety footwear were for 75 percent supplied by the Mediterranean countries, mainly Tunisia (98%) in 2001 and for 25 percent by Asian countries, mainly India (77%), followed by China and Indonesia. Another important supplier was Slovakia, covering almost 99 percent of non-developing CEECs. All countries mentioned increased their exports considerably, in particular India.

UK

UK imports of safety footwear from developing countries amounted to 18 percent in terms of value in 1998 and around 50 percent in 2000 and 2001. However, imports from EU countries (+ 42%) increased

more than imports from developing countries (+ 19%) in the years 2000 and 2001.
48 percent of total imports came from Asian countries in 2001 (China 26% and India 13%) and 6 percent from Mediterranean countries (almost all from Tunisia). In the previous year these percentages were respectively 34 and 16. Another developing country with substantial exports to the UK was Brazil (0.7%).
Imports from all countries mentioned increased very strongly and concerned protective footwear with uppers of leather.

Italy

Imports from developing countries dominated Italian imports of safety footwear; 87 percent of cheap protective footwear came from developing countries, of which Tunisia remained by far the largest exporter to Italy with 78 percent of total imports. Imports from this Mediterranean country accounted for 90 percent of imports from developing countries. Other were China (5%), Bosnia & Herzegovina and Vietnam. In particular, imports from Tunisia increased strongly, from € 50.5 million in 2000 to reach 57.2 million in 2001. Other booming imports came from the other countries mentioned but also from other than developing CEECs, like Romania and Bulgaria.

The Netherlands

The role of developing countries in Netherlands imports of safety footwear was very limited, being only 3.7 percent of total imports in 1998, however this percentage increased even more than in neighbouring country Germany. In 2000 the import share of developing countries rose to 32 percent and in 2001 to 40 percent! These imports concerned footwear with uppers of leather and came from China (26 percent of total imports and 70 percent of imports from developing countries) followed at a distance by Indonesia (8% of total imports), Thailand, Vietnam and South Africa.

Spain

The role of developing countries in Spanish imports of safety footwear was very limited during the whole period under review. In 2002, 97 percent of Spanish imports concerned intra-EU trade. Less than 1 percent came from Asian developing countries, mainly China.

5.3.4 Safety headgear

The role of developing countries in EU imports of safety headgear is rather limited. Only 14 percent (in terms of value) came from these countries in 2001 (7% in 1998 and 11 % in 2000), of which almost completely (98%) from Asian countries (China, South Korea, Thailand and Indonesia).

Germany

The small German imports of safety headgear from developing countries grew from € 4.5 million in 1998 to reach € 9.1 million in 2001 and came almost completely from Asia, namely China (43%), South Korea (39%), Thailand (10%) and India (6%). Imports from China increased strongly, while imports from South Korea, Thailand and The Philippines decreased to the same degree.

France

81 percent of the French imports of safety headgear concerned plastic helmets in 2001, which in 2000 amounted to 73 percent. The import share of developing countries increased from 13 percent of total imports in 2000 to 17 percent in 2001 and came from Asian countries, like China (48%) , Thailand (33%), South Korea (15%) and Vietnam (3%).

UK

Imports from developing countries (€ 12.9 million in 2001against € 10.1 million in 2000) came from Asian countries like China (39% of imports from developing countries), South Korea (30%) and Thailand (9% and concerned mainly helmets of materials other than plastic).

Italy

Italian imports of safety headgear from developing countries rose from € 2.5 million in 2000 to € 4.1 million in 2001. Imports from Indonesia accounted for € 2.1 million in 2001, followed by Thailand (€ 0.7 million). Other countries were China and Malaysia. Imports from all these countries almost completely concerned helmets of plastic, except from Malaysia.

The Netherlands

The very small Netherlands imports of safety headgear from developing countries came from South Korea and China. Imports from South Korea fell 21 percent in 2001 and accounted for € 655,000, while imports from China grew 13 percent to reach € 480,000 in 2001.

Spain

Less than 6 percent of Spanish imports of safety headgear came from developing countries, of which mainly from South Korea, China and Thailand.

5.3.5 Protective gloves

Developing countries dominated EU imports of protective gloves. Almost 60 percent of the total 4.6 billion pairs came from developing countries. This percentage is the same as for imported rubber gloves, namely 60 percent of 4.1 billion pairs. Malaysia remained by far the most important supplier followed by Thailand, Indonesia, Sri Lanka and China.
Asian developing countries also dominated EU imports of leather protective gloves. China exported 183 million pairs to EU countries at an average price of € 0.66, followed at distance by India (60 million pairs against € 1.16) and Pakistan (43 million pairs at € 0.91).

Cotton knitted gloves impregnated, coated etc. with rubber came for 20 percent from Sri Lanka (average price € 0.82), China ranked third with 9.4 million pairs at € 0.68 followed by Tunisia and Malaysia.
Imports of cotton knitted gloves, mittens and mitts coated etc. with plastic came from China (13.9 million pairs at an average price of € 0.57), Pakistan (12.6 mln pairs at an average import price of € 0.54). South Korea exported 7.9 million pairs (€ 1.44) to the EU and Sri Lanka 6.4 million pairs (€ 0.76).

Germany

Total German imports of protective gloves grew by 10 percent in value in 2001 and amounted to € 241 million, of which 72 percent came from developing countries. Malaysia was the leading supplier to Germany with an import share of 21 percent of total import value of which 97 percent concerned rubber gloves. China was the second supplier of gloves (16%); this country is the leading exporter of (split-) leather gloves to Germany. Other Asian countries with exports to Germany were Thailand (13%, major supplier in all kinds of rubber gloves), India (8% of total imports, mainly leather), Pakistan (4%, mainly leather and cotton), Sri Lanka (4%, all kind of gloves) and Indonesia (3%, mainly rubber).
Imports from China decreased by 7 percent in 2001 while imports from the following developing countries increased considerably: Malaysia, India, Pakistan, Sri Lanka and Indonesia.

France

About 81 percent of French imports of protective gloves came from developing countries in 2001, of which the major part (86%) came from Asia and a minor part (11%) from the Mediterranean Rim. Malaysia remained the leading supplier of protective gloves to France with an import share of 20 percent of total imports, mainly consisting of rubber gloves. Other Asian developing countries with exports to France were China (9%, mainly split leather gloves), Thailand (6%, supplier of rubber gloves), Sri Lanka (6%, rubber and cotton gloves), India (6% of total imports, mainly leather), South Korea (4%, mainly cotton gloves) and Pakistan (4%, mainly leather gloves). Other important suppliers were Tunisia (5%, leather and cotton), Morocco (mainly leather) and Mexico (mainly rubber gloves).
Cotton gloves came mainly from South Korea (19% of total imports), Tunisia (12%) and Sri Lanka (7%).
China (27% of total imports) was the leading supplier of split leather gloves followed at a distance by India (19%), Pakistan (14%), Morocco (11%) and Tunisia (8%).
Imports from the following developing countries increased in the period 2000-2001: China, Thailand, Tunisia and South Korea. Imports from the other countries mentioned stabilised or decreased slowly in the same period.

UK

The UK's imports of protective gloves from developing countries amounted to € 146 million in 2001, of which 68 percent was made of rubber. Rubber gloves came for 61 percent from Malaysia and for 12 percent from Thailand. Other supplies of rubber gloves came from Sri Lanka, Indonesia and China. (Split-) leather gloves came mainly from China, namely 61 percent of total imports of this product group in 2001, followed by Pakistan (16%) and India (6%). An increasing part of the imports of cotton gloves was imported from developing countries. Leading trade partners in this area were Sri Lanka (12% of total imports), Pakistan (10%), Malaysia (9%) followed by China, UA Emirates and Indonesia.

Italy

Total Italian imports of protective gloves amounted to € 158 million in 2001, of which 71 percent came from developing countries. Malaysia remained the leading supplier with an import share of 29 percent (in value of total imports) and concerned all kinds of rubber gloves. Other Asian countries with exports to Italy were India (12% of total imports, mainly leather), Thailand (8%, mainly rubber), China (8%, of which all kinds of gloves: leather, cotton and rubber), Indonesia (5%, mainly rubber), Pakistan (4%, mainly leather) and Sri Lanka (3%, mainly rubber). Smaller volumes came from Vietnam (rubber), Brazil (leather) and South Korea (cotton).
Imports from the following developing countries decreased in the period 2000-2001: Malaysia, Pakistan and Sri Lanka, while imports increased from India, Thailand and China.

The Netherlands

Netherlands imports of protective gloves amounted to € 84 million in 2001 (against € 73 million in 2000), of which an increasing part (68% in 2001 against 56% in 2000) came from developing countries. Asian countries with exports to The Netherlands were Malaysia (38% of total import value, all kinds of rubber gloves), China (16%, mainly split leather but also rubber and cotton), India (7%, mainly split leather), Thailand (7%, all kinds of rubber gloves), Pakistan (4%, mainly split leather and cotton), Sri Lanka (2%, rubber and cotton) and Indonesia (2%, mainly rubber gloves),.
Cotton gloves came mainly from China and Pakistan; China was the leading supplier of split leather gloves, followed at a distance by India and Pakistan.
Imports from all developing countries mentioned above increased strongly in the period 2000-2001, of which Thailand showed the biggest growth.

Spain

Spanish imports of protective gloves amounted to € 67 million in 2001 (against € 53 million in 1999), of which an increasing part (84% in 2001) came from

developing countries, of which the major part (97%) from Asia . Asian countries with exports to Spain were Malaysia (30% of total import value, all kinds of rubber gloves), India (16%, mainly split leather), China (9%, mainly split leather), Thailand (6%, all kinds of rubber gloves), Sri Lanka (4%, rubber and cotton) and Pakistan (4%, mainly split leather).
Imports from all developing countries mentioned above increased in the period 1999-2001.

5.3.6 Protective glasses

31 percent of protective glasses(in terms of value) came from developing countries in 2001, of which China was the most important supplier (72 percent of imports from developing countries) followed at a distance by Slovenia, Tunisia and South Korea.
German imports came for 35 percent from developing countries, almost completely (98%) from Asia. China covered 92 percent of total imports from developing countries, followed by Thailand and South Korea. Another non-Asian supplier was Slovenia.
Only 23 percent of French imports came from developing countries, of which 90 percent from Asia (mainly China followed by South Korea and Indonesia) and 10 percent from ACP countries (mainly Mauritius and Madagascar)
38 percent of Italian imports came from developing countries, of which 93 percent from China, followed by Thailand and Malaysia, while UK imports came for 39 percent from developing countries, of which 84 percent China, followed by Malaysia and South Korea.
Imports of protective glasses into The Netherlands came for 48 percent from developing countries, of which 50 percent from China and 48 percent from Tunisia.
Imports of protective glasses into Spain came for 28 percent from Asian developing countries, of which 86 percent from China and the remaining part from Thailand, Malaysia and South Korea.

5.3.7 Breathing appliances and gas masks

Breathing appliances and gas masks came for almost 3 percent from developing countries into the EU. The leading developing country was China (12th place) with an import share valued at 0.8 percent and 28 percent of total imports from developing countries, followed by South Korea, Egypt and Malaysia.
Imports from developing countries by Germany, Italy, UK, The Netherlands and Spain were very limited and came mainly from China. 62 percent of total EU imports from developing countries was accounted for by France, for which South Korea was the leading supplier, followed by China, Egypt and Morocco.

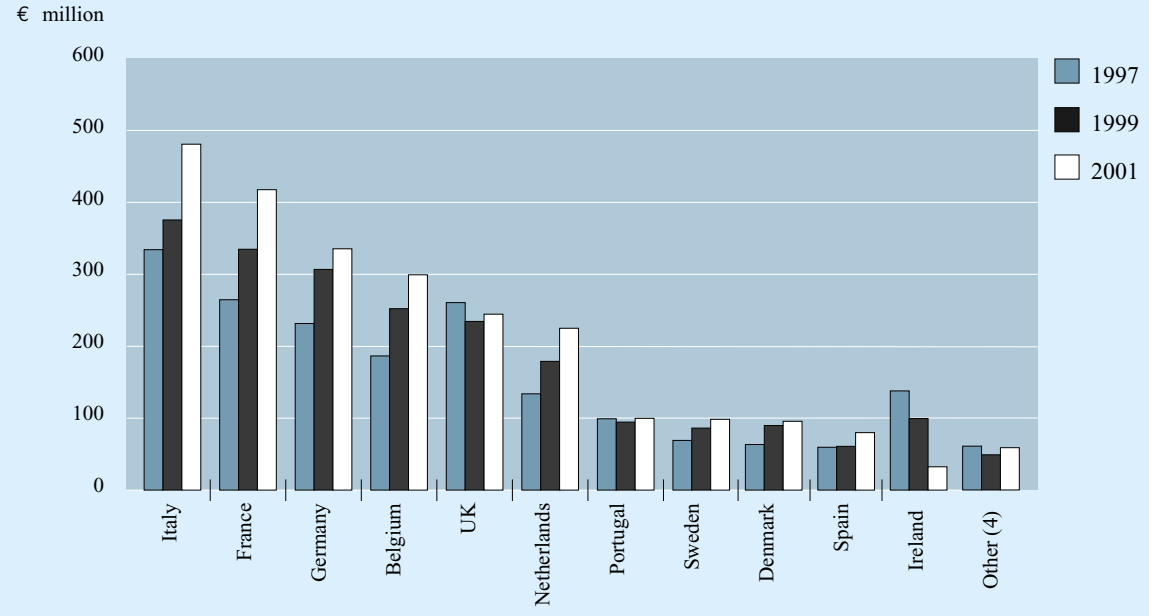
6 EXPORTS OF PPE

The same restrictions for the import figures apply to the export figures below. Refer to chapter 1 for these restrictions.
The EU member states exported € 2,510 million in 2001, representing a growth of 14 percent in the period 1999-2001. Italy remained the leading EU exporter, mainly caused by its exports of protective footwear (39% of total EU exports in this product group) and safety headgear (49% of total EU exports).

Export activities by the EU countries vary strongly. Belgium is the leading exporter of workwear and protective clothing (18% of EU exports in this product group), followed by Germany (almost 13%), Denmark (12%), Italy, Portugal and France (each almost 4 %). Belgium is also the leading exporter of gloves (32%), followed by France (15%), The Netherlands (14%), Germany (12%) and Austria (10%).
Italy is the leading exporter of safety footwear (39%) and headgear (49%), while France takes this position for safety glasses with an export share of 39 percent. The UK has an export share of 30 percent for breathing appliances and gas masks.
Other countries exporting safety footwear are France (16%), Germany (12%), UK and The Netherlands (each 7%); safety headgear: Germany (11%), Belgium and France (each 9%); safety glasses: Germany and Italy (each 19%) and breathing appliances and gas masks: France (26%), Germany (19%) and The Netherlands (7%).

The largest export product group in terms of value is workwear incl. protective clothing representing about a quarter of total exports in 2001. EU exports of all product groups increased in the period 1999-2001, of which footwear (+27.6%) and glasses (+19.6%) showed the biggest growth, while gloves (+6.4%) and breathing appliances (+5.3%) grew much less.
About 66 percent of total EU exports concerned exports to other EU countries in 2001. The main destinations outside the EU were USA (23% of non-EU exports), Switzerland (12%), Hungary (7%), Norway (6%), the Czech Republic (4%) and Japan (3%). Other EU export destinations (valued at more than € 10 mln) were Canada, Russia, Poland, Australia, Tunisia, Bangladesh, Hong Kong, Romania, UA Emirates and Estonia. Exports to the CEE countries mentioned included CMT with these countries.
EU exports of workwear and protective clothing rose in terms of weight (16%) and in value (9%) in the period 1999-2001. Belgium passed Germany as the leading EU exporter of this product group in 2000 and retained this position in 2001. Denmark ranked 3rd during the whole period under review. Workwear and protective clothing accounted for almost 72 percent of total Danish PPE exports.
In terms of value, the biggest growth in exports was realised by Spain (73%!) during the whole period followed by UK (38%), Finland (35%) and Sweden (34%). Exports by Greece, Germany, Portugal and The Netherlands decreased.

Figure 6.1 EU exports of PPE by country in terms of value, 1997-2001



Source: Derived from Eurostat

Table 6.1 EU exports of workwear and protective clothing by country, 1999-2001

	1999		2000		2001	
	tons	€ million	tons	€ million	tons	€ million
Belgium	5,208	88,937	4,964	97,334	6,372	108,166
Germany	2,823	94,894	2,383	89,044	2,016	78,446
Denmark	3,412	70,702	3,236	67,528	4,188	70,660
Italy	1,865	46,571	2,152	53,861	2,350	55,031
Portugal	2,855	61,015	2,918	62,516	2,647	54,315
France	2,430	43,667	2,525	48,462	2,283	52,294
United Kingdom	2,852	33,359	2,779	42,924	3,368	45,897
Sweden	833	24,691	1,101	32,141	1,145	33,169
Netherlands	1,877	34,833	1,474	29,900	2,293	31,450
Spain	950	14,845	1,061	17,078	1,515	25,673
Other (5)	2,509	47,978	2,674	53,258	2,742	56,764
EU (15)	**27,614**	**561,492**	**27,267**	**594,046**	**31,919**	**611,865**

Source: Eurostat

Germany

German exports amounted to € 337 million in 2001, of which 23 percent workwear and protective clothing, 19 percent breathing appliances, 16 percent protective glasses, 16 percent gloves, 15 percent footwear, while headgear accounted for the remaining 11 percent.
German exports went to Austria (12%, divided over all product groups), The Netherlands (11%, of which more than half accounted for by footwear and breathing appliances), Switzerland (9%, mainly glasses), Hungary 9% (mainly OPT in workwear), France (7%, divided over all product groups), the USA (6%, mainly breathing appliances), Belgium (5%, mainly footwear), UK (5%) and the Czech Republic (5%, gloves and glasses). Other destinations outside the EU were Poland (workwear mainly CMT), Russia (mainly breathing appliances), Japan (mainly glasses), Australia (mainly glasses and breathing appliances) and Norway (mainly footwear and breathing appliances). The latter five countries had an export share of lower than 3 percent.

Italy

Italian PPE exports amounted to € 484 million in 2001 (almost 20 percent of total EU exports) of which 37 percent footwear, 35 percent headgear, 11 percent workwear and protective clothing, 11 percent protective glasses, 4 percent breathing appliances and 2 percent gloves.
23 percent of Italian exports went to Germany in 2001, followed by France (14%), UK (13%), USA (9%, mainly helmets and protective glasses), and Spain (5%). Exports to the EU partner countries mentioned were mainly the product groups footwear and headgear followed by workwear. Other destinations outside the EU were Switzerland (mainly helmets), Japan (mainly glasses and breathing appliances), Canada (mainly protective glasses and helmets) and Hong Kong (mainly protective glasses).

France

The leading export destination of French PPE export was the USA in 2001, accounting for 14 percent of total exports. The USA was followed by four destinations within the EU: Germany, Italy, Spain and Belgium. In total 38 percent went to these four EU partner countries. French exports amounted to € 416 million in 2001, of which 26 percent protective glasses, 21 percent breathing appliances, 17 percent footwear, 16 percent gloves, 13 percent workwear and protective clothing and 7 percent helmets. Switzerland ranked sixth in French export destinations with almost 7 percent of total exports.
OPT with Tunisia led to the situation that this country was the leading destination for French exports of workwear and protective clothing with an export share of 25 percent, followed at a distance by Romania (4%). Destinations (without CMT activities) were USA (13%), Belgium (12%) and Germany (9%).
Protective gloves went mainly to other EU countries, of which Italy, Germany and Spain were the most important followed by UK and Belgium. Important destinations outside the EU were Iraq (3.7% of total exports), USA (2.6%), Switzerland (2.8%) and Hungary (2.3%).
Footwear went also mainly to other EU partners, of which Belgium and Germany were the most important with each country receiving 19 percent of French exports. Footwear went outside the EU in order of ranking in value to Hungary, Switzerland, Saudi Arabia, Poland, Lithuania and UA Emirates. Exports to all countries mentioned valued more than 1 million euro.
The leading destination for breathing appliances was

USA (34% of total exports) followed by Germany (10%). Headgear went to Italy, Germany, UK and Spain and protective glasses to the USA (17%) and Switzerland (almost 17%) followed by several EU countries (mainly Italy, Spain and Germany).

UK

Exports by the UK amounted to € 246 million in 2001, of which 41 percent was breathing appliances, 19 percent corporate wear, 14 percent footwear, 10 percent gloves, 8 percent protective glasses and 8 percent helmets. Major destination for the product groups corporate wear and protective glasses was Ireland (respectively 33 and 22% of total UK exports), for protective gloves Belgium (17%), for footwear the USA (47%), for helmets France (17%) and for breathing appliances Germany (17%). Other destinations outside the EU, besides USA, were Norway, Australia, Singapore, UA Emirates, Hong Kong and Japan. Breathing appliances went (in the following order of export values) to Germany, The Netherlands, USA and France. Corporate wear to Ireland, The Netherlands, France, Germany, Spain and USA; gloves to Belgium, Ireland, USA, France, Norway and Germany; footwear to USA, Ireland and France; helmets to France, Ireland, Italy, Germany and The Netherlands; protective glasses to Ireland, France, USA, Germany and Sweden.

The Netherlands

Exports by The Netherlands amounted to € 168 million in 2001, of which 37 percent gloves, 20 percent footwear, 19 percent workwear and protective clothing and 14 percent breathing appliances. The leading destination for PPE was Germany, with almost 23 percent of Netherlands exports going to its neighbouring country, of which gloves accounted for more than 50 percent. Other leading destinations were France (16%, mainly gloves and breathing appliances), UK (almost 16%, of which 42 percent footwear), Belgium (13%, mainly workwear and gloves), Italy (4%, with breathing appliances as the major product group) followed by Norway (4%, mainly workwear and footwear), Sweden (3%, mainly gloves) and Spain (2%, mainly gloves and footwear). Other destinations outside the EU were Switzerland, USA and Russia.

Spain

Spanish PPE exports increased from € 50 million in 1999 to € 66 million in 2001, of which 39 percent workwear and protective clothing, 14 percent footwear, 12 percent gloves, 24 percent headgear, 6 percent protective glasses and 6 percent breathing appliances. 24 percent of Spanish exports went to France in 2001, followed by Italy (19%), Portugal (14%) and Germany (8%). Leading destinations outside the EU were neighbour country Andorra (mainly helmets and footwear), Cuba and the Dominican Republic (all product categories but mainly workwear to both countries).

7 TRADE STRUCTURE

7.1 EU trade channels for workwear

Suppliers on the traditional workwear market in the EU are:

- domestic manufacturers, often with production activities abroad;
- agents or selling offices for foreign (mainly European) manufacturers;
- wholesalers/importers, with a broad assortment in which they combine products from European manufacturers with imports from outside Europe. They often combine (factory) branded products with own-labels or non-labelled products;
- garment rental and laundry companies;
- non-importing wholesalers, mostly specialised in a broad PPE range with a general character or specialised in a specific branch or profession;
- retailers, mostly specialised in workwear who sell to both consumers and professional users in small units;
- other channels, like DIY outlets, street markets etc..

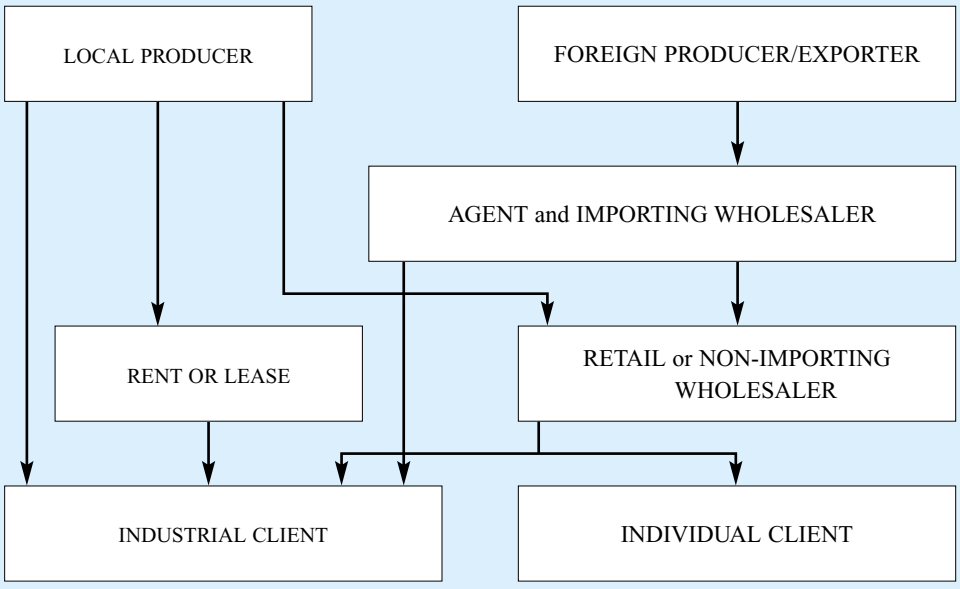
Manufacturers as well as wholesalers operate more and more via direct-mail activities (catalogues and via Internet). Manufacturers may also function as importers (vertical integration).
The following diagramme summarises the distribution pattern.
"Industrial client" in the diagramme below includes the producers' market as well the governmental market.
The difference between workwear and normal outerwear is that the first is worn when practising a profession and, in most cases, the wearer does not have to pay for it. The employer provides the workwear garments. Therefore, trade in and supply of workwear form a business-to-business deal. It can be estimated that not more than 15-20 percent of the employees buy their own workwear. The clothing for others is provided by the organisation or company, in the case that buyers are institutional buyers or public authorities (like police, fire services, military, health care) or industrial buyers (industry, forestry, fishery etc.). Bearing in mind the product specification (technical requirements), buyers mainly orient themselves to manufacturers and wholesalers, who represent foreign manufacturers with a good reputation.

With regard to purchasing methods (distribution channels, types of contract) and product requirements (garment types, fabric, styling, CE marking) there can be major differences between the segments, as described in chapter 3. Channels used for buying PPE in EU countries can be classified as follows:

heavy industry: most companies buy directly from manufacturers or wholesalers and have their own laundries or work with rental companies;

light industry: bigger companies buy directly from manufacturers or from rental companies, the smaller companies through retail or wholesale;

Figure 7.1 Distribution structure of workwear



hotels etc.: the hotel, catering etc. sector works for an important part with rental companies, but many employees provide their own workwear; hotel chains buy mainly directly from manufacturer or wholesaler;
retail: the purchasing methods in the retail sector are dependent on the size of the organisation, all channels are possible;
health and care: this sector buys directly from manufacturers or from rental companies;
public utilities: by tender or directly from manufacturers.

Besides the kind of branch, the number of employees in an organisation also has an influence on the way of buying workwear. It is difficult for small organisations to use other than wholesalers, retailers or catalogues. Large companies can buy wherever they wish, but will for reasons of costs buy in large quantities direct from the manufacturer, rental laundries or through tenders. Medium-sized companies buy mainly from wholesalers. Purchases by individual consumers for domestic use are very limited, mainly done in do-it-yourself outlets or specialised retailers.

Direct buying (by negotiations or through catalogues) from the manufacturer is by far the most important distribution channel for workwear in the leading EU countries, followed by wholesale. It is believed that wholesale and catalogue business including E-commerce (by manufacturer as well as by wholesaler) will become the major growth areas throughout most of the European workwear markets. Meanwhile, direct sales from manufacturers and garment rental/leasing are expected to stay flat, while tender and retail are predicted to decrease. However, the market shares of the various distribution channels did not change significantly during the period 2000-2002.

There is an increase in the concentration of rental/lease companies in the EU, just like in the PPE sector. Companies like Bardusch, Berendsen Safety, Elis, Rentokil Initial and Rentex/Fortex operate in many European countries and have taken over many national or regional operating companies. The website http://industrialrent.com give you a detailed list of addresses of textiles, workwear and protective clothing lease companies in several countries and in several languages.
Most of the products in this sector are made of 65/35 polyester/cotton. In most types of industries, one person will use about three to four sets (a set can be several units) of workwear per year.

7.2 EU trade channels for other PPE

The most important suppliers on the PPE market in EU countries are:
- independent national manufacturing companies often specialised in one specific product group operating on the domestic market and eventually in combination with exporting;
- manufacturers complement their range by offering goods from other sources, including imports;
- manufacturing operations by international companies with headquarters in Europe or outside Europe (USA, Australia etc.);
- manufacturing companies from abroad with manufacturing and/or commercial interests in a specific EU country;
- distributors or wholesalers offering a PPE assortment from other sources, including imports.

The structure of the PPE business is a complicated one. Most of the manufacturers have their own specialisation in the categories mentioned. In general, manufacturers do not undertake direct selling operations to end-users, except for the largest international companies which often operate on the basis of contracts concerning large

Table 7.1 Distribution channels of corporate wear in EU and selected countries, 2002 (in %)

	Direct sales	Indirect sales					Total
	Manufacturer	Tender	Wholesale	Retail	Rental	Other	
EU	**48**	**6**	**23**	**6**	**14**	**3**	**100**
Germany	42	5	28	5	18	2	100
UK	46	8	19	4	19	4	100
France	54	6	20	5	13	2	100
Italy	62	6	16	10	3	3	100
The Netherlands	50	5	24	4	14	3	100
Spain	60	5	16	10	5	4	100

Derived from various sources

quantities. Many (larger groups) companies, however, have extended their assortment through the acquisition of specialists in other products or they purchase products to complement their own assortment. The PPE market can be characterised further as a large network of distributors on several regional levels per country. In general, distributors may also deal in imported goods.

7.3 PPE distribution in major EU countries

Leading international manufacturers with their own commercial operations in several EU countries or global operations are mentioned in chapter 4.

Germany

Distributors/wholesalers operating with a full range of PPE in Germany are: Gummi Mayer, Hintermeyer, Meier & Nussbeck, Trebes & Henning, Buchberger and Delta Vertrieb.
Besides the usual sources (Kompas, ABC, Europages etc) as mentioned in Appendix 3.6, more information including addresses of about 1,600 German wholesalers and agents in workwear can be found on Internet under http://www.dino-online.de and type under "search": grosshandel arbeitsbekleidung (= wholesale workwear) or "grosshandel berufsbekleidung" (= wholesale occupational clothing).
Leading German rental or lease laundries in the field of workwear and protective clothing are: Alsco, Bardusch, Boco, Profitex, Haniel, Mewa and Elis.

UK

In the UK the leading distributor/wholesaler is Arco, followed by Greenham Trading and the much smaller Corston Sinclair.
Importers/wholesalers of workwear are (among others) Tunika Safety Products, Farlane, J&N Safety and Hygiene, Flekta Ltd.
There are many rental or lease laundries active in the UK market, a selection of which is Albany Rental Supply, Brooks Service Group, Clean Linen Services, Fenland, Initial Textile Services, OCS Smarts Group, Victoria Workwear, Johnson Service Group and Sketchley Services.

France

A number of independent groups of distributors/wholesalers operate in France, four of which being Fiprotec Nord, Gerin, Amiet, Cevenole. All companies are active in certain districts of France.
French importers/wholesalers of workwear are among others France Securité, Molinel, Securipro.
Leading rental or lease laundries in the field of workwear and protective clothing in France are: Anett, Initial BTB, SDEZ, Groupe Inicial and Regie Linge Développement. Many international companies (like Bardusch and Mewa) are also active on the French market.

Italy

Leading distributors/wholesalers in Italy are Brandschutz Italia, Odibi Export-Import, Roversi, Seba Protezione and Industrial Starter.
Importers/wholesalers of workwear are, among others, Abitec, Sir Infortunistica, SFAP, Abitec, La Fenice, Safety Equipment, Centro Sicurezza
The following companies operate on the rental/laundry market: Fleur, Lavanderie Industrial Lavin, Linen Supply Italiana, and Padana Everest, besides international chains like Rentex, Elis, Bardusch and Mewa.

The Netherlands

Leading distributors/wholesalers in The Netherlands are Vandeputte Safety (part of the Belgian Vandeputte Groep, market leader in Belgium) and Groeneveld-Dordrecht. Other distributors/wholesalers are Coolegem Veiligheid, Majestic and PWG Benelux. Specialised wholesalers in the field of gloves are Rehamij and Prevent Gloves. Between 150-200 wholesalers/distributors are active in the workwear sector, in many cases combined with PPE.
Importers/wholesalers of traditional workwear are Jomo, Rehamij, Prof Beroepskleding and Heigo.
Besides this type of distribution, workwear can be part of the assortment of supply companies for specific branches, like building construction, hotel/catering etc.
Traditional workwear is partly rented or leased for employees in the medical and manufacturing sectors. It is expected that the market share of rental laundries will stabilise in the coming years. Leading companies in this sector are Rentokil/Hokatex (part of Rentokil Initial Plc, UK), Rentex/Fortex, Berendsen Textielservice, Nedlin, Blycolin (specialised in hotels/catering) and Wilhelmina.
Regarding domestic use, there is some demand for cheaper items in the do-it-yourself sector but this is a very small market. The number of specialised retailers is very limited, many of them combine wholesale and retail activities.

Spain

Several leading global brands operate on the Spanish market, just like foreign distributors with activities in Spain like, among others, Industrial Starter from Italy and Delta Plus from France. Important national PPE distributors are Vestilab, Cables y Estingas, Celulosas Vascas, Sacopisa, S.I. Artin, Port Royal, Confecciones Anadel and Milaboratoria Web.
International operating rental/laundry companies, like Bardusch, Mewa and Elis are active on the Spanish market.

7.4 Distribution channels for developing country exporters

The EU PPE market is complex and sophisticated. Many global brands compete in the high-price segments. Mass-produced items from low-cost regions such as China, South Asia, North Africa and East European countries compete in the low-price segments. The movement away from cheap products to mid-price segments, including products of higher quality, offer interesting possibilities to exporters. The possibilities for developing country exporters to choose their distribution channels depends on external (demand and requirements of importers/buyers) and internal factors. The latter will be discussed in part B of this survey.

EU manufacturers
The foreign policy of EU PPE manufacturers was discussed in chapter 4. Opportunities for manufacturers in developing countries can be derived from these strategies and are based on factors like production, technology, finances, logistics etc. as will be discussed in chapter 11 'Internal analysis' of this survey.
EU manufacturers can function as distributors, too. In that case additional products to their own product range are sourced.

Importing wholesalers or importers
By buying on his own account, the importing wholesaler takes title to the goods and is responsible for their further sale and distribution in his country and/or in other EU markets. He is familiar with local markets and can supply considerable information and guidance to the exporter in addition to the primary business of buying and selling, such as administration of import/export procedures and holding of stock.
The development of a successful working relationship between exporting manufacturer in developing countries and importing/wholesaler or importer can lead to a high level of co-operation with regard to appropriate designs for the market, new trends, use of materials and quality requirements.

8 PRICES AND MARGINS

8.1 Prices and margins

Prices and margins at the various different levels of distribution are influenced by several factors and are different for each product/market combination. The most important factors are product developments (mainly in increased safety aspects and in usage aspects like comfort, fit etc. but also in fashion aspects), volume of business, functions or marketing services rendered, general economic conditions and competition. High-risk, low-volume, service-intensive products require different margins to low-risk, high-volume standard products. It is impossible to draw up a table of current margins for each and every product/market combination. Even within the same type of combination, different importers employ different margins, due to variation in economic conditions.
In general, it can be said that margins in the glove sector (especially in the low-budget categories: cotton, cotton combined with split-leather, rubber surgical and household gloves) are under pressure, due to strong competition caused among other factors by high stocks; wholesalers' margins vary from 10-12 percent of the selling price.
Wholesalers'/distributors' margins in the workwear sector vary from 25-30 percent of the selling price. The margins are between 30 and 40 percent in the sectors footwear, headgear, air purification and descender devicers. Margins for eye and hearing protectors are even higher (40-50 percent).
The effect of the average margins on selling prices, based on one CIF price for the different product groups, is shown in table 8.1. A factor of between 1.3 and 1.9 should be used to calculate an appropriate selling price. Prices at retail level (selling to the end-consumer) are much higher, because the retailer's margin and value added tax (VAT) of 19 percent in The Netherlands has to marked up. In this case, a factor of between 2.1 and 2.5 should be used to calculate a final consumer price.

8.2 Sources of price information

Sources for prices are visits to trade fairs and retail shops, obtaining catalogues from manufacturers or wholesalers, reading trade magazines and surfing on Internet sites. In many cases, however, prices of EU distributors are not mentioned. For instance, the leading supplier of workwear in the UK, Alexandra, does not give price information on the website, and this applies to many suppliers. One of the exceptions can be found under http://www.cover-up.co.uk
Prices of competitors can be found by browsing their Internet sites or looking for general sites like http://www.globalsources.com or http://www.alibaba.com

Price **indications** for PPE equipment obtained by checking several wholesaler catalogues during April-May 2003 are given on page 56. Prices for industrial clients are without VAT and without discounts for high volumes. This is a small selection from hundreds of varieties.

Table 8.1 Calculation schedule: margins

	Gloves	Workwear	Footwear, headgear etc	Eye and ear protectors
CIF Rotterdam/Amsterdam	100	100	100	100
Import duties	*	*	*	*
Handling charges, transport, insurance and banking services	6	6	6	6
	106	106	106	106
Final charges: warehouse fee and interest on investment	3	3	3	3
	109	109	109	109
Wholesaler's margin	17	36	59	80
Net selling price	126	145	168	189
RATIO CIF/SELLING PRICE:	1.3	1.5	1.7	1.9

*) see table 9.1for various import tariffs

	Price per unit or pair in euro (€)
Safety helmets	
- polyethylene	4.20 - 6.80
- ABS	7.90 - 12.00
- polycarbonate	14.40 - 24.00
Protective gloves	
Pig skin (box of 120 pairs)	0.60 - 1.50
Latex gloves, 32 cm (box of 24 pairs)	1.45 - 1.95
Household gloves, 30 cm (box of 100 pairs)	0.67 - 0.78
Workwear	
Heavy cotton coverall (min. 315 gr/m^2) with buttons	15.00 - 16.50
Bib 'n brace overall (6 pockets)	17.50
Fall protection	
Harness belt with 1 d-ring on back (CE 361)	34.50
Harness belt with 3 d-rings (CE 358 and 361)	70.00 - 85.00

9 EU MARKET ACCESS REQUIREMENTS

9.1 Non-tariff trade barriers

9.1.1 Quality and standards for PPE

The regulations about production, sales and use of PPE in the EU-countries are based on two European Directives, supported by several hundreds of harmonised European standards. One Directive (89/656/EEC) sets out the general rules and responsibilities for the selection and use of PPE. PPE is defined as any device or appliance designed to be worn or held by an individual for protection against one or more health and safety hazards in the execution of the user's activities. Besides activities on the job, it concerns activities like playing sports etc. The other Directive (89/686/EEC) specifies requirements and procedures for putting PPE on the European market and covers the harmonisation of standards and product certification for PPE across the EU. Depending on the hazard involved, the directive specifies three different categories of PPE and what is required to achieve conformity. The obligatory certification procedure (EC type examination) conducted by a notified body has to carry out for PPE in categories 2 and 3.

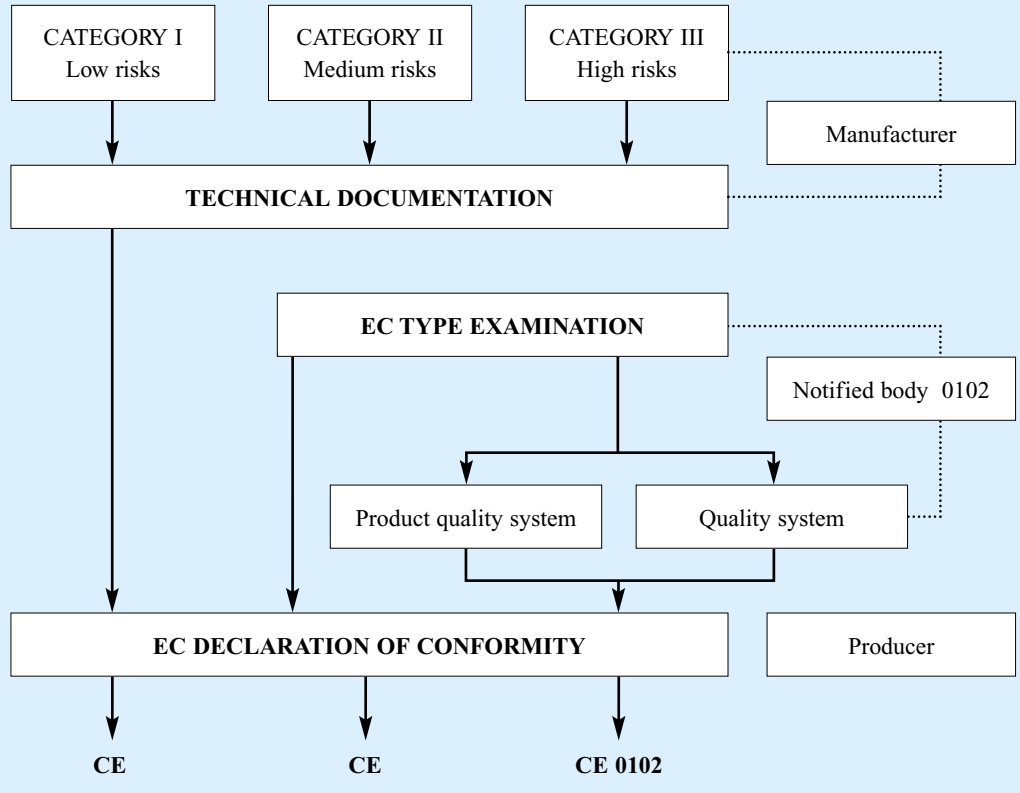
Since July 1995, the manufacturer has been obliged to provide the following:

- Technical documentation
- Explanation of conformity of the PPE model with the directive
- Application of the CE marking

The procedure of the CE marking is illustrated in figure 9.1. The number of the notified body in the figure below has been chosen at random.

Harmonised European standards are indicated as EN. In The Netherlands, standards are indicated as NEN-EN. The NEN-EN is the same as DIN-EN for Germany, BS-EN for United Kingdom, NBN-EN for Belgium, NF-EN for France etc. After approval of draft standards (prEN) by the European Committee for Standardisation (CEN), these standards are European Standards or European Norms (EN). Members of the EU are bound to give these standards the status of National Standards. See Appendix 3 for the address of the CEN. Besides more information, CEN gives details of standards, also the addresses of the notified bodies in the EU member states. In Germany, 18 notified bodies are active among

Figure 9.1 CE marking



which TüV, Pirmasens, Fresenius and Hohenstein; in the UK operate 17 notified bodies (like BSI and Satra) and one in The Netherlands (TNO). Addresses of all notified bodies in the EU can be found on http://www.europa.eu.int/

The following is a selection of the European harmonised standards, which have been published by CEN in the area of personal protective equipment (PPE):

Protective clothing:

EN 340	general requirements for protective clothing
EN 342	protective clothing against cold (lower than -5 degrees Celsius)
EN 343	protective clothing against foul weather
EN 366	protective clothing resistance to penetration by melted metals
EN 368	protective clothing resistance to penetration by chemicals
EN 463-468	protective clothing resistance to several chemicals
EN 470	protective clothing for use in welding and allied processes
EN 471	high visibility safety clothing (for road workers and the like)
EN 531	protective clothing for industrial workers exposed to heat (excluding fire-fighters and welder's clothing)
EN 863	protective clothing, mechanical properties
EN 1486	protective clothing for fire fighters

Safety footwear:

EN 344	general requirements for footwear for professional use
EN 345	safety footwear
EN 346	protective footwear
EN 347	occupational footwear

Other PPE products

EN 132-149	respiratory protective devices
EN 169-174	protective glasses/goggles (personal eye protection)
EN 136	face shields
EN 352	hearing protectors
EN 388	protective gloves
EN 397	industrial safety helmets
EN 341	PPE against fall from a height; descender devices

Looking for norms and standards is possible per country, per product and per profession. For instance PPE for fire-fighters has (among others) the following standards: EN 443 for helmets, EN 469 for protective clothing, EN 659 for gloves, EN 345 for boots and EN 136/137 for respiratory; all these products fall under category III.

Standards are not a part of the law; they are just directives, with the objective of laying down certain matters clearly and uniformly. In some cases, one can refer to standards and it is unnecessary to describe all aspects in details. Suppliers often state in their catalogues that their garments conform to certain standards. It should be noted that standards give minimum requirements.

When the International Organisation for Standardisation (ISO) creates a standard, it takes precedence over national and European standards. Important ISO standards related to workwear are in the field of textiles, tests for colourfastness, care labelling, fibres and yarns, fabrics and standard sizes of clothing. See Appendix 3 for the address of the ISO.

Products covered by this survey can be divided into its specific protective functions, like:

- Full body protection (protective clothing, uniforms, careerwear and traditional workwear)
- Head protection
- Eye and face protection
- Hearing protection
- Breathing protection
- Hand and arm protection
- Foot and leg protection
- Fall protection (descender devices)

All products can be divided into three categories:

I	PPE models against low risks; like simple gloves, headgear, footwear, sun glasses, traditional workwear etc.
II	PPE models for medium risks
III	PPE models for high risks (e.g. fatal hazards); like respiratory equipment for high risks (fire-fighters etc.), protective gloves against extreme temperatures (fire-fighters, welders etc.), descender devices etc.

CE marking has to be affixed on protective products (falling under the scope of the Directive) but also a pictogram indicating the degree of protection is also needed. Products, without any indication (only the CE mark) are considered to be classified as a category I product.

Materials used for protective clothing

As described in chapter 1, a wide range of materials is used for protection, varying from fairly basic coated fabrics up to sophisticated and higher performance materials. In general, cotton clothing will absorb humidity more easily and is better for heat insulation. Polyester/cotton fabric is stronger and more colourfast; it is less subject to shrinkage and wrinkles. Other types of fabrics may be used to obtain certain safety characteristics such as: acryl (good chemical resistance), wool (good insulation, acid resistant, fairly

flame resistant), Kevlar ® (high resistance against wear and tear, very suitable to protect users against cuts), Nomex ® (good heat insulation, good resistance against wear and tear, good chemical resistance). Other registered trademarks are among others, Proban ®, Twaron ®, Glawit ®, Goretex ®.

Uniforms - these are mainly tailored outfits of polyester/wool or wool-rich fabrics for the military, police, fire and other public service institutions.

Workwear covers a range of work clothing that may offer some degree of protection, but is not primarily provided as PPE. The most important materials, used for workwear, can be divided into two main groups, namely:

- cotton, 100% or in combination with man-made fibres
- man-made fibres, eventually in combination with natural fibres.

Besides these main groups, there is a remarkable smaller group of materials used like non-wovens, leather, etc. Disposable clothing is used for temporary, very dirty work circumstances and in hospital operating theatres. Drawbacks are environmental factors i.e. disposal and the higher costs.

Cotton in combination with polyester is mainly used in the production of workwear for the sectors industry, health and retail. This category is often referred to as "dirty end". The structural pollution means many and regular cleaning processes. 65/35 polyester/cotton or 100 per cent cotton are still the fabrics most used. Other fabrics used are 65/35 cotton/polyester, 50/50 polyester/cotton and blends of cotton with materials (to improve protective qualities), like aramides.

In general, buyers in the EU feel that 65/35 polyester/cotton fabrics should weigh at least 200-240 grams per square meter (gr/m^2) for the light qualities and 240-300 gr/m^2 for the heavy qualities.
Light quality (100%) cotton fabrics should weigh at least 180 gr/m^2 and the heavy quality 260-320 gr/m^2.
The heaviest qualities weigh 315-375 gr/m^2.
50/50 polyester/cotton varies from 100 gr/m^2 (for shirts) to 215 gr/m^2 (twill). The weight of the finish is not included in these figures.

The tensile strength should be at least as follows:

	warp	**weft**
Light polyester/cotton	90	50
Heavy polyester/cotton	110	65
Light cotton	80	50
Heavy cotton	90	65

The figures indicate kg. per 5 cm. length.

Pre-shrunk is allowed but double pre-shrunk is preferred, if properly applied. Shrunk, pre-shrunk and double pre-shrunk should be indicated on the garment label. Double pre-shrunk garments should give a maximum shrinkage of 1 per cent in the warp and 3 per cent in the weft, in case of using in accordance with washing instructions.
It must be kept in mind that European buyers, who demand high quality industrial clothing, apply these norms. In the market for industrial clothing there is, apart from the demand for high quality, a demand for cheaper medium-quality clothing. The latter is especially used in very dirty environments where clothing has to be changed very often, or for situations in which the clothing is not used very intensively i.e. visitors overalls, industrial clothing for inspectors. Disposable clothing is, however, often used in these situations.
Despite EU standardisation, which enables free trade between EU member states, individual markets have different requirements regarding quality, garment types, styling, fabric, sizes, colours etc. Accurate information is best obtained from national importers.

9.1.2 Trade-related environmental, social and health & safety issues for PPE

Environmental aspects play an important role for PPE when preparing for exports to the European market. Environmental aspects of products have become a major issue in Europe. As a topic, "the environment" is more than a trend; it is a lasting issue that, together with issues such as price and quality, may well be one of the strongest determinants for success on the EU market.
The following paragraphs, concerning environmental, social and health & safety issues are derived from AccessGuide, CBI's on-line database on non-tariff trade barriers at http://www.cbi.nl/accessguide.

Product legislation
At the moment, the most important environmental and health issue in the PPE trade is product legislation. EU product legislation on environmental and consumer health and safety issues is compulsory, therefore of the utmost importance. For instance, there are legal requirements concerning dangerous substances such as certain azo dyes splitting off carcinogenic amines. In AccessGuide you will find an analysis of all necessary EU requirements, applicable in all EU member states, including: azo dyes, nickel, cadmium, PCB/PCT and asbestos.
Most of the EU legislation mentioned is directly applicable to foreign firms supplying products to a European country. However, products are often put on the market indirectly, through importers. In most cases this makes the importer responsible for the product. Importers might therefore encourage or even force foreign suppliers to meet certain standards, for example through legally binding guarantees.

Social requirements (labels, codes and management systems)
Besides legal requirements imposed by their own governments, exporters might be confronted with social requirements specified by EU buyers. More and more companies have laid down minimum standards in so-called codes of conducts, or use labels and management systems to guarantee fair labour conditions. These social requirements are gaining importance on European markets and are becoming a precondition for international trade.
In AccessGuide you can find the most important requirements, including an indication of their market impacts by typing in the keyword search: international social standards for textile and garments; ILO Conventions; SA8000 (International social management system).

Occupational health and safety (OHS)
Standards and methods have been developed because of the growing concern in Europe about the local social conditions in which products are manufactured. OHS or labour conditions are an important issue when looking at the social standards that are more and more required on EU markets. Especially in leather, occupational health and safety is an important issue. More information can be found in AccessGuide.

Environmental and consumer health and safety requirements (ESP, labels, codes and management systems)
The environmental impact of leather, rubber and textile production is considerable. Environmental criteria are (among others) fire retardants, pigments and heavy metals in the various materials used for the manufacture of PPE. Several measures can be taken to reduce this environmental impact. Environmentally sound production (ESP) measures in the production process are not legally compulsory such as is applicable to EU product legislation, but you might be confronted with these requirements if they are requested by EU buyers. There are many instruments such as labels, hallmarks, management systems and codes of conduct. At the moment, eco-labels are hardly applied to PPE. However, they may become important in the future. You can find information on these requirements in AccessGuide.

9.1.3 Marking, packaging and labelling

Marking
Marking can be divided in:
- CE marking as described in chapter 9.1.1;
- Pictograms indicating the degree of protection, additional to the CE marking as illustrated in Appendix 6 of this survey;
- Size marking: The following sizes are used in Germany and The Netherlands:

It must be noted that different interpretations are possible concerning the character sizes! Different interpretations are also possible between different countries. More detailed information can be obtained from (potential) clients.
It is expected that, within a few years, a new standard will be introduced based on body length and chest width (eventually waist width) for men and on body length, chest width and hip girth for women. The sizes will be indicated on pictograms.
Footwear sizes are the same in continental EU countries; women's shoes have sizes 34-44 (equivalents in UK: 2-10) and men's shoes 38-48 (UK 5-13).
Gloves are sized differently per type of gloves; the symbols M, L and XL are often used.

Size table for men's jackets, coats, boiler suits or coveralls:

Character sizes	**ES**		**S**		**M**		**L**		**EL**	
Figure sizes	**42**	**44**	**46**	**48**	**50**	**52**	**54**	**56**	**58**	**60**
Body length	165	168	171	174	177	180	182	184	186	188
Chest width	84	88	92	96	100	104	108	112	116	120

Size table for men's trousers:

Figure sizes	**40**	**41**	**42**	**43**	**44**	**45**	**46**	**47**	**48**	**49**
Waistband width	68	68	72	72	76	76	80	80	84	84
Side length	100	108	102	110	104	111	104	112	106	112
Figure sizes	**50**	**51**	**52**	**53**	**54**	**55**	**56**	**58**	**60**	**62**
Waistband width	88	88	92	92	97	97	102	108	114	120
Side length	106	113	108	114	108	114	111	111	111	111

Size table for women's workwear:

Character sizes	ES		S		M		L		EL
Figure sizes	**34**	**36**	**38**	**40**	**42**	**44**	**46**	**48**	**50**
Body length	168	168	168	168	168	168	168	168	168
Chest width	80	84	88	92	96	100	104	110	116
Waist size	61	64	68	72	76	81	86	91	97
Hip girth	86	90	94	98	102	106	110	114	118

Other PPE have no sizes, because with elasticity and/or an adjustable band a good fit can be obtained for everyone.

Labelling
Information offered on labels affixed to workwear and protective clothing ranges, for example, from fibre content (especially important in up-market products, such as those which producers claim that a product contains Kevlar, Nomex, Goretex etc.) to the growing area of user's safety. There are two kinds of measures in the EU, besides the CE marking:
mandatory requirements like fibre content (96/74/EC, February 1997). The indication 100% or pure can be used within a margin of 2 percent of the weight of the final product. Other fibres with a weight of less than 10 percent of the weight of the final products can be mentioned. In that case all (eventually) other fibres have to be mentioned.
voluntary requirements like origin marking, size labelling and care-labelling/washing instructions.
Origin marking means that the name of the country of origin can be mentioned. It is not allowed to mention the name of another country other than the country of origin.
A voluntary care-labelling programme, patterned after similar programmes, is in use in many countries including countries outside the EU. The programme makes use of five basic symbols (Ginetex-symbols) that are colour-coded; the symbols relate to the properties of colourfastness, dimensional stability, effect of retained chlorine (bleach), maximum safe ironing temperatures and certain other properties.
Note: A cross on any of the symbols means that the treatment shall not be used and a bar under the symbols indicates milder treatment is needed (broken bar indicates a very mild treatment).
The maximum (wash-) temperature can be mentioned in the washing-symbol.

At the moment, eco-labels are hardly applied to PPE. However, they may become important in the future. More information can be found in AccessGuide.

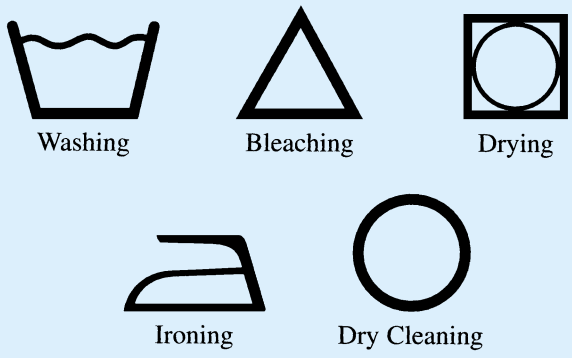
9.2 Tariffs and quota

9.2.1 Tariffs

All EU countries apply common Customs tariffs to imports from outside the Union. If there is no special trade agreement in force, the general import tariff applies. However, some kind of preferential trade agreement may apply to many developing countries. Examples are:

- the Generalised System of Preferences (GSP); through this agreement, products originating in the concerned countries can be imported for preferential tariffs or, for the least-developed countries, duty free. A "Certificate of Origin Form A" has to be filled in by the exporter. Tariff contingents and tariff ceilings do not exist anymore.

International care labelling symbols



- the 4th Lomé Convention for the African, Caribbean and Pacific (ACP) countries. Products originating in the so-called ACP countries can be imported without duties, when a "Certificate EUR.1" is filled in by the exporter.

The EU common external import tariffs for PPE (as a percentage of CIF value, without duties and VAT) are given in table 9.1.

Up-to-date information on trade regulations can be obtained by using the list of useful addresses included in Appendix 3.6.

9.2.2 Quota

The most important form of non-tariff barriers regarding clothing is quota restrictions. Since 1995, the Multi Fibre Arrangement (MFA) has been superseded by the WTO Agreement on Textiles and Clothing (ATC). The ATC calls for import restrictions on textile and clothing to be lifted in four distinct phases spreading over a period of 10 years - 16 percent of imports by volume in 1995, 17 percent in 1998, 18 percent in 2002 and the rest in 2005.

Since 1998, there have been no quotas for CEECs. In 2002 and 2003, quota for workwear applied to Vietnam and North Korea. Information on the up-to-date status of the management of quotas is available on the Systeme Integre de Gestion de Licences (SIGL) at website http://sigl.cec.eu.int/
The certificate of origin, mentioned above, is intended to ensure that the EU quantitative levels are not contravened, for example, by transhipment of goods through a third country from a source country whose quota has already been filled. These certificates are obtained in the supplying countries from authorities that are empowered to issue certificates of origin and the required stamps.

9.2.3 Other barriers

Examples of barriers other than tariffs and quota are anti-dumping and anti-fraud measures.

Anti-dumping

The application of the simplified and accelerated procedures set up in the Uruguay Round is helping to re-establish the conditions for fair competition on the market. Businesses making complaints about anti-dumping procedures are required to provide the investigators with highly confidential information relating to competition (price structure, profits, margins etc.). Anti-dumping procedures and other aspects of trade policy sometimes run up against different approaches on the part of the member states in their interpretation of the EU interest.

Anti-fraud policy

The EU has increased anti-fraud investigations and actions against fraud to:

- circumvent trade policy measures, such as quota or anti-dumping measures;
- benefit illegally from preferential treatment such as that under GSP;
- cheat consumers (claiming EU origin for products actually produced elsewhere);

Table 9.1 Import tariffs for PPE, as a percentage of CIF value, without duties and VAT

HS code	Description	Tariff in %	
		General	GSP
62.03	Workwear and other protective clothing for men	12.2	9.7 a)
62.04	Workwear and other protective clothing for women	12.2	9.7 a)
64.01.10	Waterproof footwear, incorporating a protective metal toecap	17.0	11.9 b)
64.02.30	Footwear with uppers of rubber or plastic, incorporating a protective metal toecap	17.0	11.9 b)
64.03.40	Footwear with leather uppers, incorporating a protective metal toecap	8.0	4.5 b)
65.06.10	Safety headgear	2.7	0 c)
40.15.11	Rubber protective (surgical) gloves	2.0	0 d)
40.15.19	Other rubber protective gloves	2.7	0 d)
42.03.29.10	Leather and artificial leather protective gloves	9.0	5.5 e)
61.16.10.20	Coated, impregnated etc. gloves of cotton	8.0	6.4 a)
61.16.10.80	Coated, impregnated etc. mittens an mitts of cotton	8.9	7.1 a)
90.04.90	Protective glasses	2.9	0
90.20.00.10	Full breathing appliances and gas masks for civil aircraft	0	0
90.20.00.90	Breathing appliances and gas masks	1.7	0

a) preferences are not valid for China, Moldova and Macao b) preferences are not valid for Brazil, China, Indonesia, Moldova and Thailand c) preferences are not valid for Brazil, China, Indonesia and Thailand d) preferences are not valid for Malaysia and Thailand e) preferences are not valid for China, Indonesia, Moldova and Thailand

- abandon counterfeiting and piracy (copying exclusive designs and models without permission of the owner).

Part B
Export marketing guidelines: analysis and strategy

PART B

After having read Part A, it is important for an exporter to analyse target markets, sales channels and potential customers in order to formulate marketing and product strategies. Part B subsequently aims to assist (potential) exporters in developing countries in their export-decision-making process.

The scope of the product groups and products in this review is too vast to give precise information for individual products or specific information for all companies contemplating export to the EU. The following chapters serve as primer for specific research aimed at your company. This research should lead to an assessment of your companies capabilities and possibilities in a very competitive international environment. The decision to try to enter export markets can be a very fruitful one, but costly one if not successful.

Chapter 10 describes the analyses of the external environment resulting in opportunities and threats, while chapter 11 describes how to analyse the internal environment, which results in strength and weakness of exporter's company: the so-called SWOT analysis.
The essence of the SWOT analysis is to find a market segment, where there is an opportunity that matches the strength and where the threats have a minimum impact on the vulnerable side, the weakness of the company.
In fact, by matching external opportunities and internal capabilities, the exporter should be able to identify suitable target countries, market segments and target product(s) within these countries, as well as possible trade channels to export the selected products (chapter 12). Chapter 13 subsequently describes which marketing tools can be used to build up successful business relationships.

There are several reasons like growth, continuity and competitiveness, which support the decision to export. In any case, the decision should always be taken after export market research has been carried out and if customers have been identified, who sufficiently appreciate some elements of a company's product to consider buying it.
The total value of PPE consists of material + design + production + logistics + marketing. Profits can be obtained wherever value is added to the chain. So the position in that chain has to be observed. Finding out where the highest added value is, can be determined by answering questions like, does the company have:

- easy and economic access to materials and accessories?
- a product development department?
- efficient production facilities and low labour costs?
- logistical advantages to reach markets?
- a brand identity?

PPE producers can be classified in several ways, for instance as manufacturers of standardised mass product varieties and of technical complex products (from PPE production of category 1 to category 3).

Several countries in the EU have branch organisations or trade associations which may offer information about their markets and members companies. Market data, quality requirements and reports can often be retrieved. Furthermore, these days, numerous websites exist from which specific or general data and reports covering the PPE market can be extracted. Addresses are listed in the appendices.
For information concerning general aspects of analysing the feasibility and practicalities of exporting please refer to CBI's Export Planner 2000, which as the title indicates contains practical and extensive information on the subject.

10 EXTERNAL ANALYSIS

The aim of the external analysis is to define product-market combinations, understand your competitive position, understand the working of the various sales channels and its pricing mechanisms and margins.
Starting the analysis, it is necessary to define which product or product groups are of interest for exporting. Next to specific products you already produce, these could be defined by skills in production processes which can be applied to product groups. This is necessary in order to limit your research and focus on specific information which is of direct use. As such, this survey is too broad to fill the information need you have to be able to make a proper analysis and decision.
The structure of the PPE market is rather complex and calls for information needed and research approach. In general the internet offers many sources for a first scan of the markets, possible sources are given in this survey. However, do not confine yourself to the Internet only. Actively approach organisations and associations which can be of use. In addition to available, free information it can be useful to buy one or more market reports specifically geared at describing the market situation in Europe for your product range. Insufficient information can lead to wrong assumption with dire consequences for your company.
Europe is a continent and not just one market, but a patchwork of markets with different characteristics. Aim is to create a clear picture of the available markets for your product groups in order to define product-market combinations that offer opportunities. In this survey we have outlined the European market with special attention to six national markets which are of main interest because of their size. Other markets could be of more interest because of language or cultural aspects, lower competition, easier market entry or perhaps higher margins and prices. In general it is best to quick scan several markets before focusing your research on several specific markets. The general way is to choose for two countries: a primary and a secondary target country. For PPE, a comparison has to made based on the following factors:

1. Economic stability: developments in gross domestic product, trade, labour force and unemployment, wages, income, exchange rates etc.
2. Cultural and political climate, including language
3. Geographical factors and climate
4. Size and developments of the market for PPE, if possible divided into segments or product groups
5. Development in total imports per country, per product or product group, and area of origin; import penetration of total market size
6. Characteristics of customer demand including needs and desires
7. Local distribution and trade
8. Type and extent of the competition, competitive offerings
9. Market access, limitations on trade

The market information described in part A of this market survey can be very useful as a starting point for your export market research. Where applicable, the sources for this market information are also mentioned in the specific chapters.
For more general information, the website of the EU statistics bureau Eurostat can be used (http://www.europa.eu.int/comm/eurostat). Other sites for general information are among many others: http://www.odci.gov/cia ; http://www.tradeport.org and http://www.worldchambers.com For a list of the European national trade statistics bureaus, please refer to the Eurostat site.
For more information about the PPE market in the EU, refer to websites mentioned in the following paragraphs and appendices.

10.1 Market developments and opportunities for PPE

An overview of PPE consumption in the EU countries and more detailed figures for the six major countries is given in chapter 3 of this survey. Much of the initial information about market size and developments can further be gathered by using websites or gathering figures derived from:

- National statistics as far as available. It has to be noted that official trade statistics can vary considerably in products or product groups, in volume denominators (weight and/or units), or absence of figures (secrecy) for competitive reasons;
- Databanks supplied by research institutes like Frost & Sullivan, Up & Down Marketing, Key Note, (http://www.KeyNote.co.uk) David Rigby. These statistics and publications are rather expensive, availability and costs can be found on the referred sites.
- Trade fair organisers, in particular the site of the German A + A. For these and other sites: see appendix 3.4.
- Trade press; to gather information about production and trade in PPE or to obtain information in product developments, new technologies and other developments in the market. References on appendix 3.5.
- Standards organisations (appendix 3.1) and trade organisations (appendix 3.3).
- Some providers of specific information about PPE, like http://www.etsa-europe.org and http://www.ppezone.com/europe

Another means to obtain insights into a market is measuring on production level. The local market situation (apparent consumption) in a country is equal to production (at invoice value) plus imports minus exports and eventually plus or minus changes in stocks. The availability of production figures concerning products or product groups is very limited and varies considerably per country. Another way to gain insights into the market can be based on the number of labour force in specific branches.
A further vital piece of information, besides knowing the size of the market, is the projected market development for the coming years.

Growth markets in the PPE sector are the following:
- The health and care sector is a growing area in all major EU countries as a consequence of an ageing population. Aspects like comfort and fashion become more important, especially in countries where the traditional outfit is or will be replaced, like UK and France;
- The retail sector (super- and hypermarkets, department and variety stores) offer opportunities because extended opening hours will create more employment through the use of more part-timers;
- Due to increasing tourism and changing consumption pattern in several countries, the hotel, restaurant and catering sector is growing, including the demand for specific workwear in this branch;
- One of the largest buyers of workwear, uniforms and other PPE is the state or other governmental bodies. For most orders there are restricted tenders, for which virtually only producers in EU countries are invited. However, increasing privatisation offers more opportunities to other suppliers;
- Spending on fire fighting, catastrophe control and emergency services due to increased fear of terrorism;
- Total workforce will stabilise or slightly increase, in particular the number of female employees as well as part-time employees;
- he PPE market will increase in terms of volume against higher prices, caused by technical innovations and usage of specialised fabrics for protective clothing, except the market for traditional workwear and uniforms.

Threats
- Traditional workwear for manufacturing companies (coveralls etc.) is required in smaller quantities (up to 30 items in one order) as a result of shrinking national industries and therefore (among other factors) an increasing number of smaller companies;
- Manufacturing activities will decrease further in favour of activities in the service industry;
- Ten new nations join the EU in 2004, then two more by 2007. Although several new members are net exporters of PPE, like Slovakia and Czech Republic. Romania, another PPE supplier to the EU, is likely to join the EU;
- The effect on the elimination of quotas per 01-01-2005 will be for prices to fall. Products likely to see the biggest price reductions are those manufactured in Asian countries which are currently subject to higher tariffs than those levied on products from the EU neighbours in the CEECs and the Mediterranean Rim. Tariffs and trade barriers other than quota will play a stronger role.

10.2 Competitive analysis

Opportunities for all types of exporters in developing countries still remain, in particular as long as increased attention is given to quality and reliability in deliveries. Effective competition by developing countries requires knowledge of the legal, technical, quality and fashion requirements. In addition, they must make resources available, not only to monitor and understand developments in the target countries, but also to call in test laboratories to ensure that quality requirements are strictly met.
In general, it can be said those companies, which are continually adapting new technologies and have the advantage of low production costs, have definite advantages. Another advantage applies to exporters in economically and politically stable developing countries.
Goal of the competitive analysis to get a clear understanding of your competitors, their position, strengths and weaknesses in order to assess your company's capabilities in competing with them.

The following aspects have to be considered, to learn more about your competitive environment.
- **Prepare a list of your key competitors**

Prepare a list of all the competition and then highlight who the main competitors are. To learn more about competition, do a secondary research study of your industry and ask customers and suppliers for their opinions.
- **Analyse the main competitors**

Gather information as much as possible about your competitors. Ask customers about your competitors, visit competitors' companies (if possible) and visit trade fairs. Consider the following aspects: product range offered; price levels, turnover and market share; turnover export markets; unique selling proposition(s); promotional emphasis; promotional activities; quality control systems; sales channels; service levels; export markets and volumes in order to prepare a list of your main competitors' strengths and weaknesses.
- **Assess whether new competition is likely to enter your market**

Despite the enormous competition, some sectors of the PPE industry are open to new entrants encouraged by the low threshold caused by relatively low investments

and quick-to-learn skills. Constantly check with customers, suppliers and your competition to see if they have heard of any new businesses, which represent competition.

- **Discover where and how the competition is selling their products**

You need to find out which trade channels are used by your competitors, and why.

- **Observe activities in the PPE branch**

Of course, trade fairs, trade centres, congresses, seminars etc. can be helpful to get in contact with new customers and learn about market developments. It can, however, also be used to find out more about competition. If you sell PPE, take the time to attend trade fairs to see what your competition is like.

The buyer's highly developed price consciousness is typical for the industrial and institutional market. Prices for end-users vary greatly according to the quality of the product. There is a tremendous offer of PPE on the EU market. The advice to potential exporters to EU countries is to set prices as sharply as possible. In order to make a fair judgement about your competitive position in prices and quality, it is necessary to bear in mind the information mentioned in chapter 8.1 about margins and calculations.
Although price will always remain an important competitive tool, it is certainly not the only instrument you can use to outrank competitors. In particular in the PPE sector, exporters are confronted with many aspects like quality standards, sizing, packaging, CE marking, environmental aspects, all of which result in a lot of technical requirements besides aspects of fashion trends, in particular in workwear. For that reason, co-operation in a variety of forms between importer and exporter is often necessary.
Traditional trade relations between importers/wholesalers and importers/manufacturers on the one hand and exporters on the other are increasingly being replaced by joint ventures and co-makership agreements in the SME sector.
Specialising in a specific area of the PPE sector is recommended. Another point to consider is the possibility for an SME to join an export cluster, because a group of companies that has been purposely clustered, combines specific advantages of the large companies, such as economy of scale, marketing power and coordinated resources, whilst the flexibility that characterises the SME can be maintained.

The major problems faced by importers in importing PPE from developing countries are the following:

- Quality of shipment is not in line with samples sent
- Delayed delivery
- Exporters want to change agreed payment and delivery terms
- Paperwork and bad communication

Exporters who are able to offer their products at a competitive price and who can successfully apply competitive tools as described above are in a good position to outrank competitors. This should be coupled to a good understanding of the above-mentioned problems importers are confronted with.
By providing solutions to these problems, exporters have another tool to outrank competitors.

10.3 Sales channel assessment

Having assessed the prospective markets and market segments, it is now also important to understand the trade structure and supply chains supplying these market segments. After the assessment of the exporter's capabilities, the exporter is able to determine the most suitable sales channel.
Foreign market entry strategies can be divided into production and marketing entry strategies. The various forms of production strategies are described in chapter 4.1 of this survey. Marketing based entry strategies can be divided into direct and indirect exports to the EU (contacts with foreign distributors, whether or not via agents and looking for co-operation with trade partners or organisations in your home country.) Trade channels in the target country are discussed in chapter 7 of this survey.

Direct exports to the EU
This way the exporter chooses to export directly to a EU trade partner or partners. The advantages of this approach are:

- Direct contact with EU trade partners, resulting in better information about market requirements and trends, price levels, supply and demand situations, etc.
- Shortening of the supply chain and better able to be part of an integrated chain
- Better control over the products to final destinations.

Disadvantage:

- The company has to invest in an export organisation and reserve budgets for travelling to trade partners and to promote his products in the EU.

This option is suitable for larger size companies that can supply full container loads (FCL) and that have the resources to set up an export department.

Indirect exports to the EU
In this way, the company sells their products to a locally based export house or trading company, who takes care of all the export documentation and formalities. The advantages for especially small companies are:

- No need to invest in an export organisation
- Possibilities to supply less container loads (LCL) to local export intermediaries, who usually consolidate smaller shipments from several exporters in order to

fill a full container load (FCL). This way, shipment costs can be reduced.

Disadvantages:
- The company has no direct contact with trade partners in the EU and is therefore less informed about market developments.

This option is suitable for small companies that cannot fill a full container load and that do not have the financial resources to set up an export department and to invest in EU market visits, participation in trade fairs, samples and brochures.

When a company has decided that direct exports are the best option, he then should decide on the type of trade partner in the EU. In evaluating the different options, the following should be considered:
- Importing manufacturers are looking for relocation of the most labour intensive piecework or relocate total production including material purchasing or sourcing additional products.
- Agents are intermediaries between manufacturer and retailer, receiving a commission from the former. Capital requirements are limited because this cooperation is based upon commission; however, agents mainly work with brand names and are therefore less interesting for most exporters in developing countries.
- Importers/wholesalers import PPE, made according to their specifications, either or not provided with private labels, or buy ready-made products. Cooperation with an established importer/wholesaler can ensure better contact with the distribution channels on the export market. The importer/wholesaler has a thorough knowledge of the market, follows the market closely and has, via his salesmen, close contact with the distribution channels. The capital requirements are limited because the wholesaler holds his own stock at his own risks.

10.4 Logistics

The logistic concepts aim at having the right goods at the right time, in the right volumes at the right place and all that with a minimum of costs. Logistics deal with all matters to ensure a smooth flow of products from production to the final destination in the country of destination.
Based on the requirements of EU trade partners, assessment of the following subjects should be made:
- Planning of production
- Purchasing of materials and accessories
- Handling of export orders
- Export documentation (certificates, packing lists, invoices, insurance certificates, etc.)
- Availability of containers and shipping space
- Export licenses (when required)
- Agreements with transport providers to the port of shipment, shipping and customs agents
- Pre-shipment inspection (when required)
- Communication with trade partner in the EU

Any developing country factory entering the export market must not only estimate costs accurately before entering into a contract, but also ensure that the shipping facilities at its disposal can guarantee delivery within contractual time requirements. This tends to pose few problems for countries with access to ports which have well-established shipping channels to the EU. However, it is a problem for many exporters in Africa, for example, who, in addition to needing to move goods overland to a port, must deal with shipping services that are often unreliable and infrequent. A reliable shipping agent is essential for these exporters.
Packaging poses an associated problem. While there is an increasing worldwide trend for consignments to be container-packed at the factory, this can be done only in countries equipped to handle container ships in the docks of embarkation.

10.5 Price structure

Chapter 8 gives the price structure for four product groups in an importer's country. In this chapter, the cost structure in the exporter's country will be analysed. Although price is not the only marketing tool to export PPE to EU markets, it is certainly a very important one. Concentration of buying power, increasing supply and global sourcing of PPE put pressure on process and margins throughout the value chain. Cost prices in the processing industry are constantly rising and an oversupply situation for some product groups as the markets in the EU are growing slower or are stabilizing put also pressure on price levels.
Due to the diversity in products, it is not possible to focus on prices for individual products. However, the following trends are visible in prices and margins of PPE:

Faced with increasing costs and at best stable selling prices causes margins to decrease, exporters should:
- Have a clear insight in their cost prices for exports to EU markets in order to set a minimum selling price. At least all variable costs and part of the fixed costs should be covered by the selling price. When the market price is lower than the minimum selling price, a loss situation can easily occur. Although this could be acceptable for individual orders in order to prevent larger losses (stock losses), for the longer term will this situation undermine the financial stability of the company.
- Try to obtain efficiencies in their operations in order to decrease cost prices, for example reduction of stocks, more efficient production runs, negotiate

lower purchase prices for their raw materials and packing materials, etc.

Prices are determined by market conditions; individual exporters cannot influence the price levels. Margins for the exporter depend on his price setting at one side and his cost price on the other side.
Part of his costs depend on the payment and delivery conditions, the exporter agrees with his trading partner in the EU. Sources to check for price information are given in chapter 8.
Exporters who want to supply EU markets will invariably be faced with longer payment terms.
Usually, trade partners will wait with payment until they have inspected the goods upon arrival in their warehouse against the (approved) samples they received. Depending on the shipping period, the exporter can easily face a period of 6-12 weeks after production of the goods before he receives payment of the invoice. The interest he looses should be calculated into his cost price. This is especially important for countries with high interest rates.

10.6 Product profiles

The profiles of a limited selection of products highly relevant for exporters in developing countries are elaborated in this section. The products concerned are traditional coveralls, industrial safety helmets, the full body harness, protective gloves and filtering half-masks and respirators.
The product profiles summarise the main issues of interest to a (potential) exporter of the respective product. Besides the product requirements, the market structure and the main supplying countries are also briefly described. Moreover, the product profiles offer ideas on how to improve the quality of the product.

10.6.1 Coveralls

Market requirements
All protective garments falling under the scope of the European Council Directive 89/686/EEC, as amended by directives 93/68/EEC, 93/95/EEC and 96/58/EC, must carry the "CE Marking".
EN 340 is the general requirements norm for protective clothing. This European standard specifies general requirements for ergonomics, ageing, sizing, marking of protective clothing and for information supplied by the manufacturer.
It should be noted that the manufacturer decides whether or not his products fall under the scope of the directive.

Naming
Coveralls are known as protective garments that "cover" almost the entire body, in order to protect the wearer during the execution of his or her physical job, although the head, hands and feet are not covered by this garment group. In fact the name is derived from the words; "(to) cover it (all)". However there is a lot of confusion and misinterpreting in the naming of the garment. In the EU countries, the most common name is overall instead of coverall. This is due to the fact that the name has been derived from the "prep" word of "over". If we translate the 'noun' word of "overall" we find: "Mess blouse or mess smock, work-dress or dust-coat. If we translate the plural form of this noun of "over" we find "cover trousers, working trousers and work suit as in a 2-piece garment. The translation of the adjective is "general". In the PPE industry we refer to the garment as "Coverall" or "Overall". In India, Pakistan and Sri Lanka the common name for this type of garment is "Boiler suit". In Latin America and Eastern Europe, manufacturers refer to it as "Work-suit".

Styling requirements
Extremely difficult for this type of garment. One should bear in mind that this garment consists of one piece of fabric when it is worn, but in fact it is an upper piece (the jacket) and a lower piece (the trousers), however sewn together. The most common colours are navy and royal blue and orange and yellow. To a lesser extent white, green, khaki, red and black. Most importers have a colour range of approximately 8 colours. Some make use of the Pantone colour system. However, it is always possible that an importer requires

Materials
Only for Category I: low risk for the wearer (no testing required according to Directive 89/686 EEC)
The choice of the material plays a dominant role. The most common material used is 100% cotton. However shrinkage and colour fastness is a big problem. All cotton shrinks, so while making patterns, this should be carefully considered. Polyester cotton blends are safer from this point of view and colour fastness (the bleeding of the colours) is not a problem.
Notwithstanding, cotton remains the

Market structure
Consumption is stable and imports are increasing slightly. Coveralls are supplied all year round. In the northern EU countries qualities used are in general heavier than in the southern ones, due to the climate.
The biggest consumption markets are: Germany, Italy, France, Spain and the Netherlands. The Netherlands plays an important role because of its transit-trade function.

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special colours like pink or olive for special purposes. The influence of fashion trends is present but not dominant. E.g.: Nowadays coveralls with a back pleat (more fabric consumption, consequently a higher price) are common, whereas before they were supplied with straight backs (less fabric consumption) and consequently lower price.

Wearing properties
Wearing properties of a coverall (a jacket and trousers in one piece) are contradictory, but sewn together they must mutually complement one another. This does not increase the wearing comfort properties when put on or taken off. The simple reason is that there not much room to manoeuvre and it is a hardship to do so.
Note: European importers prefer 'oversized' garments.

Sizes
Sizes for most importers in the EU and EFTA countries start at the European 44 to 60 and in some cases even up to 66. At a finished fabric width of 150 cm, the average consumption, depending on the execution of the style is from 2.60 meters for size 44 till 3.60 meters for size 66. Bear in mind that one can squeeze on the execution. E.g.: smaller lapels, backside in two pieces, no back pleats in the upper (jacket) pattern, narrower legs and arms; the waist band not cut on the pattern but separately drawn. Note: pattern masters should take into consideration that because of shrinkage, "oversized" patterns should be made.

Labelling
If the manufacturer has decided that his traditional working garments fall under the scope of the directive, washing and cleaning instructions shall be given according to ISO 3758 if relevant. If there are specific requirements for marking the number of cleaning processes, then the maximum number of processes shall be stated after "max" next to the care labelling. Example: buyer's favourite choice.

Maintenance and durability
Maintenance plays an important role even in the (often) low profile, high volume cat. I. segment.
Wash and care instructions are required as well as the label indicating the country of origin. Most claims arise from the incorrect appliance of the wash care instructions.
Note 1: Bleeding of colours from cotton garments is caused by the fact that those garments which need a 90ºC temperature in order to get clean, do not stand up to this temperature. It is advisable to indicate in your care label only 60ºC for industrial cleaning, in order to avoid claim discussions.
Note 2: Shrinkage of cotton garments is mainly caused by wrong drying (industrially as well as household wise): i.e. for a too long period too hot; it is very seldom caused by washing.

Applications / CE Marking
Traditional working garments are applied for farming, light construction work, gardening, at service stations etc.). If the manufacturer decides that these products fall under the scope of the directive in cat. I, in this case it is compulsory to affix CE marking label. However, testing is not required and it should be noted that a declaration of conformity, drawn up by the manufacturer has to accompany each garment. In this declaration of conformity, the manufacturer states that the garment supplied meets the protection as laid down in the Directive 89/686/EEC and its amendments.
Note: If the manufacturer does not include this declaration of conformity, he has no right to affix the CE marking, because he is then implying that the garment does not fall under the scope of the directive.

Main suppliers in order of importance
Tunisia, China, Poland, Morocco, Belgium, Slovakia, Czech Republic, Bulgaria and Romania.

Brand names
Not exhaustive: Adco, EHCO-KLM, Fristadt, Havep, Iturri, Kansas, Wenaas, Merk.

Packing
Every garment should normally be packed in a recyclable or biodegradable plastic bag or sealed. The packing bag should be marked with the green dot symbol for Germany.
Note: German buyers have the right according to domestic law, to claim back a certain % of the FOB value if working garments are not supplied in this way.

Prices
Prices in category I vary, depending on the execution and fabric weight, between € 6.50 – 10.00 FOB country of origin.

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max 25 x. If the manufacturer decides that his traditional working garments do not fall under the scope of the directive, labelling indicating care instructions have to be affixed according to the label decision act according to the international symbols.

Environmental influences

These influences are strongly increasing due to the awareness of buyers, end consumers, company regulations and domestic legislation.

Note 1: Make sure when your products are supplied to your importer, they are accompanied by an "AZO safe" declaration. This means that the dyes used for the fabrics have been tested by an accredited test institute and that no hazardous substances according to the Commodity acts in Germany, the Netherlands and France, were found in the dyes.

Note 2: The commodity acts applies only for the above three countries under national legislation. There is no European legislation as yet.

Note 3: Do not confuse the test institutes for AZO dyes with the test institutes carrying out the test for CE marking. However some test institutes carry out both totally different tests.

Note 4: Be aware that you should use the expression "AZO safe" and not "AZO free". The latter is not correct, because there are no "AZO free" colours.

How to improve quality

The general requirements for protective clothing are minimum requirements. However, no standard for stitching quality has been incorporated in the norm. Stitching: To avoid puckering, avoid blunt needles, apply the correct thread tension on the operating machines, avoid leakage of machinery. Stay in close contact with the fabric supplier to avoid use of wrong fabrics. Laying of fabrics: make sure the patterns are laid in one direction to avoid colour differences. Cutting: to avoid delay and quality decrease in production, make sure patterns are perfect.

10.6.2 Industrial safety helmets

Market requirements

All personal protective equipment or PPE, falling under the scope of the European Council Directive 89/686/EEC, as amended by directives 93/68/EEC, 93/95/EEC and 96/58/EC, must carry the "CE Marking".

EN 397 is the European standard, which specifies physical and performance requirements, methods of test and marking requirements for industrial safety helmets. The mandatory requirements apply to helmets for general use in industry. Additional optional performance requirements are included to apply only where

Naming

Industrial safety helmets are known as protective equipment and fall under the category of headgear or head protection. They are primarily intended to provide protection for the wearer against falling objects and consequential brain injury and skull fracture.

Styling requirements

Styling requirements for this type of protective equipment should be adapted to each individual wearer and would in fact require a tailor-made approach. However, since this is not feasible, manufacturers limit their production to two or three general head sizes.

Most common colours (signalling) are yellow, orange, red, green and white; to a lesser extent white, brown, black.

Materials

The European Norm EN 397 extensively describes the materials that must be used for the exterior shell. The materials used must be of a durable quality. Their properties may not change during their foreseeable life cycle. Two main groups of material are applied:

Duroplastics: synthetics with hardening properties when compressed under high pressure, made from textile

Market structure

Consumption is stable and imports are slightly increasing. Continuous supply all year round, except for July-August and second part of December.

The biggest consumption markets are: Germany, Italy, France, Spain and the Scandinavian countries (off- shore, oil refinery).

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Wearing properties
Wearing properties of helmets should cause the user minimum hindrance while executing his/her job. It is obvious that the level of protection often conflicts with the wearing comfort.
Note: The inside material of the shell is of great importance to increase the wearing properties (comfort).

Sizes
Most European importers have no influence over the sizes. Sizes are delivered according to the European norm in cm. The norm describes, that for adequate protection, the size should be adapted to the users head size.

Labelling
A label shall be attached to each helmet giving the following information, provided precisely and comprehensively in the language of the country of sale:- "For adequate protection this helmet must fit or be adjusted to the size of the user's head".
The helmet is made to absorb the energy of a blow by partial destruction or damage to the shell and the harness and, even though such damage may not be readily apparent, any helmet subjected to severe impact should be replaced. The attention of users is also drawn to the danger of modifying or removing any of the original components parts of the helmet, other than as recommended by the helmet manufacturer. Helmets should not be adapted in any way for the purpose of fitting attachments not recommended by the helmet manufacturer. Do not apply paint, solvents, adhesives or self-adhesives labels, except in accordance with instructions from the helmet manufacturer.

phenol and reinforced fibreglass. The property of this material is that coaling occurs only at 1,000ºC.
Thermoplastics: synthetics that at certain temperatures, in liquid plastic situation, may be moulded or shaped, made from polyethylene (PE), ABS-polymeriath (ABS), polyamide (PA) and polycarbunate (PC).
No material which causes skin irritation may be used for those parts of the inside shell that come into contact with the skin.

Maintenance and durability
Since the manufacturer is responsible and has, with each helmet, to provide a user's manual and a maintenance sheet, the maintenance must be strictly carried out according to these instructions.
E.g.: It is strongly recommended never to expose industrial safety helmets to UV light (for instance, other than direct sun light; always store them in cool places). As a general rule, the ageing period of helmets consists of three years after the date of manufacturing.
Note: This differs in all cases from the effective date of use (always later), because manufacturing, shipping and putting into circulation normally need a three month period.

Applications / CE Marking
Industrial safety helmets are used in the construction, petrochemical and maintenance industries as well as in all professional occupations where falling objects are a risk. It is required to affix the CE marking according to EN 397.
The following must be marked: number of European Standard, name or identification of manufacturer, type (manufacturer's designation) to be marked on both helmet and the securing harness/straps. Size or range size in centimeters, to be marked both on shell and harness.

Main suppliers in order of importance
Italy, Japan, Germany, China, France, South Korea, Taiwan, UK and Spain.
Note: No data available whether all headgear have been tested and/or approved for CE marking.

Brand names
Not exhaustive: Balance, Bicapa, JSP, MSA, Peltor, Schuberth, Terrano, Voss.

Packing
Mostly helmets are packed assembled. The disadvantage for the importer is that the shipped quantity will be considerably less than when supplied unassembled. However, in industrialised countries the handling is much more expensive than the disadvantage of higher transport cost.

Prices
Prices are totally dependent on the executions of the helmets. For the high-volume, low- profile construction work helmets, prices of € 1.50 are feasible with an increase and decrease margin of 30%.

Environmental influences
Thermoplastic helmets are coloured by adding pigments to the basic material. Depending on the colour, the materials used are lead, cadmium, titanite compounds and others, which are considered as environmentally hazardous. Therefore helmets may not be disposed of as waste or garbage. However the material is easily recyclable. This is executed by specialised companies.

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How to improve quality
Make sure the plastics used meet the minimum requirements. Where stitching is concerned, avoid sharp edges; use the best quality tapes. Prepare the design of your moulds very carefully and be sure to reach the maximum sizes possible. E.g. Offer four instead of three sizes. Whilst not mandatory in the norm, the provision of a sweatband is recommended, in order to improve wearer comfort.
Note: Always check if other requirements and other EU Directives may be applicable to the product(s) falling within the scope of this European Standard.

10.6.3 Protective gloves

Market requirements
All protective hand and arm protection falling under the scope of the European Council Directive 89/686/EEC, as amended by directives 93/68/EEC, 93/95/EEC and 96/58/EC, must carry the "CE Marking".
EN 420 is the general requirement for gloves. This standard defines the requirements for ergonomics, glove construction, high visibility, innocuousness, cleaning, comfort and efficiency, marking and information applicable to all protective gloves. It is also applicable to gloves permanently incorporated in containment enclosures.

Naming
Hand gloves are known as protective equipment which protects that protect that part of the body from the tip of the middle finger to the wrist against hazards. Note: It can additionally cover part of the forearm and arm, however in these cases it is no longer named a glove but a PPE such as (fore) arm protector.

Styling requirements
The protective gloves shall be designed so that, in the foreseeable conditions of use for which it is intended, the user can perform the hazard-related activity normally whilst enjoying appropriate protection at the highest level of protection.

Wearing properties
A glove should allow as much dexterity as possible, bearing in mind its purpose. Glove materials, degradation products, incorporated substances, seams and edges and particularly those parts of the glove in close contact with the user shall not harm the user's health and hygiene.

Sizes
Sizes range from 6-11 (half sizes are allowed), relating to the hand circumference and hand length. E.g. Size 9 relates to 229 mm and 192 mm for hand circumference and length, respectively and 250 mm length of the glove.
Note: It is possible that the length of gloves designed for special applications may not conform to the values as described in the norm.

Materials
Materials used are natural as well as synthetic materials like leather, rubber, nylon, textiles, mineral fibres and metal. Leather is the material most often applied because of its availability, wearing comfort and mechanical strength. Also combinations of leather (for the palm and fingertips) and textiles (for the back) are applied. The leather qualities used are cow, calf, pig, sheep, goat and buffalo. The textile qualities used are interlock (knits), curled and woven fabric (twills, flat weaves).
Note: Cotton is also often used as interlining material. For protection against higher levels of risks, materials like Kevlar and Nomex (against high temperatures) and Dyneema and Spectra (against cuts), are applied.

Maintenance and durability
If gloves can be washed, the manufacturer needs to clearly indicate this in the user's manual.
Note: As a general rule it is to be noted that if gloves because of cleaning lose their performance ability, they should be replaced.

Market structure
Consumption is stable and the imports are slightly increasing, however during the past five years a considerable price decrease has been noted; in cat. I up to 50%. Continuous supply all year around, except for July-August and second part of December (vacation for construction companies).
The biggest consumption markets are: Germany, Italy, France, Spain and The Netherlands (transit trade function).

Main Suppliers
For cat. I and cat. II: China, India, Pakistan, Malaysia (rubber and latex), Indonesia and Thailand.
Cat. III: France, UK and USA.

Brand names
Not exhaustive: Ansell Edmont, Mapa, KCL, Marigold, Prevent, Polar Bear, Rehamij, Sempermed.

Packing
Gloves are normally purchased container-wise and are therefore press-packed in boxes, depending on the buyer's wishes, of 60-240 pairs per carton, 12 pairs per style in a

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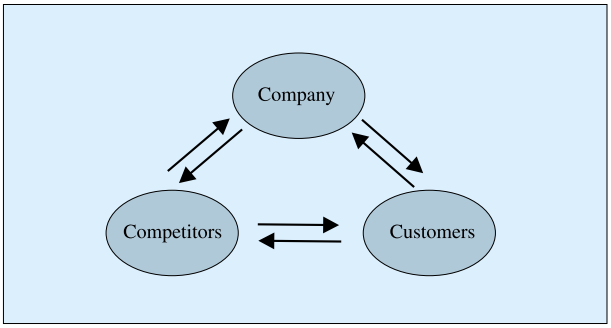
	Applications / CE Marking Traditional working gloves, where no testing is required and falling under cat. I are used for construction work, gardening, automobile service stations etc. The manufacturer's obligation is to supply a declaration of conformity with every shipment to his importer/client.	recyclable or biodegradable plastic bag. The packing bag should be marked with the green dot label for Germany. Note: German buyers have the right according to domestic law to claim back a certain % of the FOB value if gloves are not supplied in this way. **Prices** Prices depend on the quality: e.g. cotton knitted gloves, 7 gauge 160 gr/m^2 represent a totally different price than a full grain cow leather welding glove.

Environmental influences
Since many materials of which gloves are made contain environmentally hazardous substances, gloves should be disposed of, when no longer used, in an environmental friendly way. This is executed by specialised companies for more substantial items and or products. In the case of gloves, a small volume product, many users dispose of them autonomously. In many European countries, a general disposal contribution charge is levied by the municipalities or federal authorities.

11 INTERNAL ANALYSIS: COMPANY ASSESSMENT

It is one thing to discover attractive opportunities in the EU; it is another to possess the necessary competencies to succeed in converting these opportunities into business.
A (potential) customer analysis, a competitor analysis and a (company) self analysis have to be made. The internal or self-analysis is an internally focused examination of a manufacturer's strengths and weaknesses.
These strengths and weaknesses indicate how well the company can seize opportunities and avoid harm from threats in the environment. The competitive strength of the company has to be measured in relation to the other suppliers on the market, just like customers' attitude to the company and to the other suppliers, as can be illustrated below. Competitors and customers (buyers) have to be considered in the internal analysis because a manufacturer's strengths and weaknesses are defined as its capabilities relative to them.



The most critical aspect of the internal analysis for a PPE manufacturer is to determine his unique capabilities. If it has a thorough understanding of its unique capabilities, the company can invest in opportunities that exploit its strength and avoid those that emphasize its weaknesses. These analyses are focused on the strategic direction that competitors and customers are likely to pursue and on their ability to successfully implement their strategy. By understanding competitors in depth, a manufacturer can develop a strategy to compete effectively against them now and improve his ability to anticipate competitors' future actions. Understanding of customer requirements derived from customer strategy is of great significance, not only with respect to the present order but also and, more particularly, to any future purchase.

Each (potential) exporting company needs to review its manufacturing, logistical, marketing, financial and organisational competencies. This assessment gives an overview of its strengths and weaknesses, from which a distinctive and, more important, a competitive advantage can be derived.

11.1 Manufacturing

Elements to be assessed include product characteristics, production facilities, production process, production capacity, production flexibility, quality and service. These aspects have to be compared with major competitors.

Production facilities and capacity
Significant differences in equipment exist for manufacturing PPE, while special equipment can sometimes be needed for specific products or treatments.
Sometimes, the customer will send a buyer or a representative to the supplier to visit the mill where the products in question are or may be manufactured, in order to undertake a supplier's audit and/or a quality control audit. In a supplier's audit, a description is given of the type of products, number, type and age of the machines. A quality control audit implies a description of the control procedures including employees, laboratory, system, packing and storage.
Most buyers demand certain minimum standards, which also guarantee an acceptable quality level. Buyers in PPE's category III (high risks) and II (medium risks) sector are more interested in the technical infrastructure of their suppliers than in the category I (low risks) sector. In the latter case, buyers are more concerned about the continuity and durability of the process.

The production process starts at the availability of materials or components (except when manufacturing is limited to assembling activities) and ends with special treatments after manufacturing. Buying of materials abroad by producers can sometimes be confronted with long distances, minimum order sizes, the risk of delay in delivery times etc., while lead times are shrinking world-wide in the PPE market.

Selling a product internationally (as well as domestically) requires the capacity to produce or manufacture the product. The company has to possess the space and equipment needed to manufacture for the specific countries to which it is selling (they have their own product standards and regulations) and will eventually require a minimum order from the customer(s).
If the company is already selling domestically, it is necessary to investigate if the production capacity to handle and store additional orders is available. Expanding into the international marketplace will result in a higher number of units to manufacture. The exporter has to ask himself if this increase in production will affect quality of output.

Quality
The buyers prescribe the functional and intrinsic quality of the products. Improving the quality can be achieved in a simple way, for instance by quality control procedures, like having insight into factory rejects and the record of why they were rejects, just like returns and the reasons for returns.
Quality control starts with suppliers and checking of incoming materials. Responsibility for the quality of each operation rests with the operatives who should be encouraged to identify problems and discuss how to solve them. A good structure for quality control is provided by ISO 9000 as it imposes a discipline on every part of the business. ISO 9000 norms or other quality standards of the specific countries need to be adopted by the manufacturer for long-term growth in the market. Quality is an essential prerequisite which is often taken for granted. However, without ensuring quality, there is no likelihood of entry or acceptance on the market(s).

Technology
Introduction of new technologies in sectors like the clothing and footwear industries is a slow process and does not take place in a great number of companies. Besides, new technologies and working methods should be accomplished by applying new marketing concepts. An efficient information technology system is one of the important features for suppliers when the variety of products and the need for communication increase. The link between the design department and the production unit has become extremely important (Computer Aided Design systems). To achieve fast response to changing demand, companies need access to a good CAD system to keep them up-to-date. CAD enables designs and patterns to be circulated from suppliers in the EU or elsewhere. CAD/CAM is also valuable in reducing lead times. A production plant, which is not properly equipped and does not have well-trained and skilled middle management, will be unacceptable in the future.

Service
To an importer, service aspects mean communication, reliability, product development support, business ethics, ease of dealing, quick settlement of claims and speed. Very often, a much valued service aspect consists of uninterrupted and factually correct information flows.

USP
Competition on the European market is fierce for most products. Many manufacturers in Europe, the USA, Asia and developing countries try to access the markets for the different products. Success can only be achieved if your product has unique features through which it distinguishes itself from competing products. Such a feature is called the Unique Selling Proposition or USP. In the present market it is however not sufficient to have just a USP. Next to the USP, your products and company need to be able to compete on all other elements like quality, price, features, logistics, and service.

It is not sufficient to just 'invent' an USP without it being really true or distinctive. The USP should really be a distinctive quality of your product(s) or your company's performance. In order to define your USP or work towards creating one it is essential to have a clear understanding of your customer's needs. What motives do they have for buying a product, what functions does the product have for them, how is a decision towards purchase being made, what types of information are being used, etc.?

11.2 Logistics

Exporting requires completely different logistic operations and procedures. Delivery times are longer and there is a greater dependency on others, administrative requirements are rigid. Use the experience of other local companies. Which transportation methods do they use? What are their experiences with the paperwork?
Customers demand increased flexibility and a well-organised logistic organisation from the side of the producers. Companies in Europe do not want to have too much inventory in stock as this costs too much money. Just-in-time logistics are therefore being used by most players in the distribution chain for the PPE market likewise. To be part of this chain implies, firstly the ability to create the trust in you, and secondly the ability to keep that trust by supplying on time and keeping your promises. It is possible to offer lower prices, but to lose or not get contracts because of untimely delivery or the fear thereof. You must therefore be sure to have properly calculated the implications of delivery times and terms, and to be prepared for the paperwork before you have accepted your first orders.
The past years have seen the advent of new technologies being used to control the logistics chain. It is imperative for your company to be able to follow the demands of your customers in this respect. In this sense logistics nowadays is not only the physical distribution and movement of goods, but just as important, the locational aspects of information. Technical specifications, product material safety sheets, lead times, inventory statistics, all of these should be directly available within the distribution chain. If such systems are not yet in place, setting up and maintaining information systems can form a huge investment and added yearly costs.

11.3 Marketing and sales

Perhaps the most exacting aspect of exporting, even for the established exporting company, is that of ensuring optimal exposure to, and communication with, decision-making personnel in a client company, often thousands of miles away. In chapter 10.3 the market entry modes direct or indirect exports are discussed. When a company decides on direct exports, it will be necessary to set up a commercial department to handle export activities to EU countries.
Marketing and sales are the task of the commercial department responsible for all export activities to EU countries. Whether to employ different persons for marketing and sales depends entirely on the size of the company plus the skills/capabilities of the relevant staff members and the possibilities to invest in the commercial department.
The aim of an export market strategy is to set up a coherent and integrated process of convincing others to buy your products and to keep them happy and loyal.

- What is the right market and which segment of the market do you target?
- What is the right product for this segment?
- What is the right price?
- How do you promote it?

These questions refer to the planning stage of the marketing strategy process. The planning stage is followed by execution, while continuously reviewing the decisions made during planning. Marketing is a looping process in which constant feedback is gathered and questions are raised.
Part of marketing are promotion and sales, but also customer relations. There are many methods to employ in order to draw attention to your company and your products. A thorough understanding of how the market and market players operate is crucial. This will make it possible to develop an image of how you want your company to be perceived by your potential clients. Of course, there is a need for promotional materials, like company and product information, all of these create an image, an idea of what your company does and how it operates. But make sure not to limit your efforts only to the design of these, because every contact moment with clients develops that image. Being friendly and accurate on the phone, keeping your promises, are all essential for the other in trying to understand how you operate and whether they want to do business with you.

After having identified which are your potential customers and how you want your company and products to be viewed, it is necessary to create awareness and moments of contact with them. You have to make your company exist for them. Options include advertising in relevant media, direct marketing methods like mailings or phone calls, product/company press releases, visits to trade fairs or direct appointments. Often a combination of these is necessary. For the new market entrant, specialist advice is often necessary to ensure that the information to be delivered is complete, that the media chosen are the most cost-effective means of reaching the target audience, and that the timing of the promotional effort is correct. PPE fairs are held in many EU countries (see appendix 3.4). Their role is limited in the case of booking direct orders, but more and more fairs are an excellent way to orient yourself on material and fashion developments and to make contacts with potential buyers. Individual participation in international trade fairs may be a useful sales promotion tool, but besides entailing a heavy financial involvement it is a complex operation. Documents sent by direct mail can be accompanied by samples. Mailing of this kind to prospective customers, well before a proposed visit from a senior selling team, can be highly effective. While not a complete guarantee of quality, the sample, if it is of good quality, will inspire confidence in prospective buyers. It can also be useful in weeding out merchants who are simply not in the market for those products or those qualities. In fact, generally, no personal sales visit should be attempted without an adequate sample on offer.

Having won the first contracts, keeping your customers is the key issue. A sales organisation should not only be capable of selling, but also of maintaining and expanding relations. Being far away from your customers requires pro-active efforts to keep contact alive. Keep them and yourself up-to-date by regularly calling them, by visiting them on regular basis, by ensuring that their questions are always answered. Established exporters also find it productive to arrange visits to the market by a team, usually comprising a senior technical and a commercial executive. Whether the objective is to strengthen existing contacts with customers, or to seek new ones, careful research should be undertaken before the schedules for such visits are set; these schedules should be confirmed in advance with the contacts concerned.

11.4 Financing

Initiating and executing export strategies will have serious financial consequences for your company. Of course, the goal is to derive a profit and positive cash flow from it, however, before this goal is reached, even in the best circumstances, it will take up considerable financial and personnel resources in the mean time. Consider a period of three years as a minimum in which you will have to invest before expecting profits. Therefore, your company needs to be in good financial and organisational shape at the start of this process. Given the risky nature of exporting, and in order not jeopardise the future of your company these resources should preferably be available 'in surplus', meaning that profits and cash flow from present operations should be

sufficient to furnish the monies necessary to invest in exporting. Before deciding on an export strategy, it is necessary to write an export business plan taking into account all investments and costs and expected returns of the various options available. Be critical: what will the expected return on investment be in relation to its risks? The effect of currency fluctuations can be calculated through different scenarios of lower and higher exchange rates.

Next to an overall perspective on investments, costs and returns comes proper product costing. Often the eagerness to expand sales and production tampers the interest 'in setting up good models for product costing. Still it is vital to be always able to calculate your product costs and judge your gross profit margins accurately. It can be fruitful to gain access with lower margins for a certain period of time, but to produce below product costs over a longer period of time is killing to any company. Product costing techniques should be such that they can be updated easily when prices for materials, labour or logistics change. A method integrating marketing, design and production is target pricing, instead of calculating your product cost and adding a profit margin, a target price is set which is competitive. Design and production are focused on reaching that target price with a sufficient profit margin.

On the upside, one of the advantages of export revenues, apart from making a profit, is the payment in hard currencies like the euro. These cash inflows might enable you to make investments, i.e. in new production facilities, more easily.

11.5 Capabilities

Commitment to export
It is important to consider whether the company has staff who are able to sell and develop an international business. Having in-house staff with international experience can facilitate your entry into the international marketplace. If you do not have such a person, you can either hire one or train present staff to assume the responsibilities. The company should be able to generate the physical and administrative infrastructure to deal with increased activities generated by exporting - not only in dealing with orders, but also with processing Customs and shipping documentation. If this type of infrastructure is limited, then it is a weakness in developing sustained export activities.

Export experiences
It is important to learn from past experiences. If the company has tried but failed to penetrate an export market previously, this can be analysed to determine where things went wrong.

Financial resources and know-how

- profitability at present markets
- cash flow from present markets
- financial resources to initiate an export strategy
- resources to finance production and sales
- resources for developing export markets
- knowledge of international financial transactions and risks
- possibility of export subsidies
- possibility of insuring debtor risks

Investments/costs

- market analysis
- marketing
- sales organisation export management
- product development (adjustment of products top EU standards)
- product testing and certification
- packaging (adjustment of content, packing material, packing for long-distance shipments and labeling requirements)
- production and sales financing
- penalties for late deliveries
- product support
- administrative support

Language skills

Besides knowing about export rules and regulations, it would help your company if your employees were also knowledgeable of your target market's language and culture. Though English is accepted as the language of business, having the ability to communicate in a customer's native language will give you an advantage over your competitors. Although most trade partners of European companies will not be native speakers themselves, the vast majority speaks English fluently. In almost all cases, foreign language skills, particularly English, are essential when entering the European market.

On the few occasions when correspondence and documents in English do not suffice, exporters can usually find sources of translation capabilities for the more popular European languages. Language capability can be advantageous, since it facilitates cultural and social relationships.

Training

Human resources development of top and medium-management level can be necessary to optimise the export marketing policy of a company. The following aspects can be considered if additional training is desirable:

- Product development, product improvement, efficiency and/or effective measures in production and communication with buyers regarding all technical aspects, including quality control aspects;
- Know-how (including costs aspects) about the required Customs formalities, shipping facilities and packaging to guarantee delivery within contractual time requirements;
- Financial capabilities including contract parts like delivery and payment procedures;
- Export market orientation and export marketing know-how;
- Communication tools, including control of the language as desired by the buyer, by middle and top management.

12 DECISION MAKING

In the previous chapters, we have described research and analysis, which a company should undertake before starting the export planning process. The next step is the gathering of the data relevant for the assessment of the external and internal environments, enabling you to decide whether to continue or halt the export planning process. This is a process which will ask for time, dedication and commitment of resources. It is therefore advisable to make sure your company is able to free those resources and to analyse whether your company's situation (reasons for exporting, position in present markets, production capacity and skill, financial health) will allow taking advantage of existing possibilities. It is best to do such a quick internal analysis instead of going to the process of an external analysis before finding you are not able to use the opportunities. Continuing the process will result in an action plan, in which the different necessary steps are clearly delineated, and measurable indicators are stipulated to monitor your progress and success. Be aware that, though unfortunate, it would be better to stop anywhere in the process if the practical deployment of the plan does not match the initial analysis and predictions. It is better to stop and take your losses, than to continue with a very costly process.

Important elements during the decision making and subsequent planning process are financial forecasts, the SWOT analysis and the formulation of critical success factors (CSF).
Financial forecasts should be made for all product market combinations. You should be able to make clear financial calculations for each product market combination, stipulating the expected gross and net profits to achieved. Such calculations should include the additional investments and costs to be made, and allow for a period of time to reach an expected sales level. It should be possible to answer insightfully, without wild guessing or over-optimistic forecasting, whether exporting is profitable and whether the expected return on investment is sufficient to allow for the risks. In making sales forecasts it is wise to calculate three scenarios: expected, best case and worst case. Furthermore, the impact of changing exchange rates should be calculated, and measures should be analysed to limit those impacts.

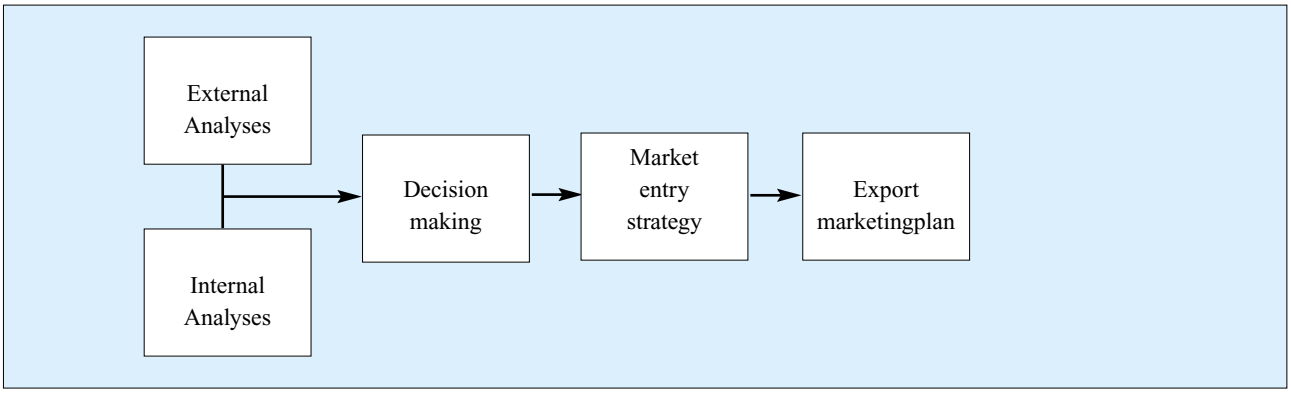
The SWOT analysis is a common framework intended to create insight into a company's ability to cope within a certain market by analysing the combination of the company's strengths and weaknesses and its opportunities and threats. Based on the SWOT analysis, the exporter should evaluate the consequences of improving his weaknesses and whether the threats pose manageable obstacles to start exports to the EU.
When his strengths and the opportunities he sees in the market outweigh his weaknesses and the threats, he might consider a positive decision to continue preparations to commence exporting to EU markets.

Critical success factors are those elements which have to be achieved in order to successfully use the opportunities which are available. The formulation of CSF, per stage or part of the planning and execution process, offer a focus and way for quick evaluation of progress.

In general, the decision making process needs to be capable of clear explanation and justification. When explanations and justification lack information depth, being based on intuition instead of market data, the decision making process will be biased and the end result will probably be incorrect. Decision aids are frameworks of analysis using some form of numerical evaluation. The use of such a decision aid serves as an instrument of analysis, as well as providing the necessary transparency of the decision process.

After a positive decision to prepare for exporting to the EU, the exporter should formulate the following objectives:

- Products suitable for export development are identified. Also known is what modifications, if any, must be made to adapt them to an overseas market.



- Countries and market segments are targeted for sales development and/or cooperation agreements.
- The best sales channel is identified.
- Which special challenges pertain to the selected markets (competition, cultural differences, import controls etc.) and what strategies will be used to address them.

Companies can waste a lot of time and money attempting to enter markets which do not have potential or for which their product is not suitable. To be successful in export marketing, exporters need to focus on specific products and markets and be prepared for all the consequences.
Once a company has determined that it has exportable products, it must still consider whether or not the development of an export business adheres to the company objectives. In order to arrive at this conclusion the management should ask itself the following questions:

- What does the company want to gain from exporting?
- Is the goal of exporting consistent with other company goals?
- Are the benefits worth the costs, or would company resources be better spent developing new domestic business?

If you have come to the decision to export, the next phase of the export marketing process is to draw up an Export Marketing Plan (EMP) which defines a marketing strategy stating how the company is going to penetrate the identified market. For assistance in writing an EMP, you can refer to CBI's "Export Planner", and for general information on conducting market research, reference should be made to CBI's new manual on market research.
The marketing strategy is designed around the information collected in the internal and external analysis and the marketing tools will be described in the following chapter. Formulating an export marketing strategy based upon sound information and its proper assessment increases the chances that the best options will be selected, resources will be utilised effectively, and efforts will consequently be carried through to completion.

A start, which involves limited risks and is chosen by the majority of starting exporters in developing countries, is to try to acquire fixed orders for products specified by the client. The latter is at home in his market and knows all the "ins and outs" of his permanently changing market place.
Exporters in the PPE sector are confronted with many aspects like sizing, packaging, environmental aspects, resulting in a lot of technical requirements, added to which are aspects of design, comfort, market developments etc. For that reason, co-operation in a variety of forms between importer and exporter can be necessary. The most important determining factors for exporters operating on this basis are the combination of price, product quality and reliability of deliveries and delivery times. Some experts are of the opinion that instead of concentrating on increasing volumes, developing countries should shift production profiles to higher-value PPE products. Another point of view, however, suggests to specialise based on experience and to try to obtain a higher degree of efficiency in production. It is evident that both production strategies have to be combined with the recommendations mentioned earlier.

13 MARKETING TOOLS

This chapter will discuss which marketing tools (product, price and promotion) can be used to build up successful business relationships, according to the following scheme.

- Matching products and the product range (specifying range, width and depth, specifying the product characteristics, packaging design and seasonal influences)
- Building up a relationship with a suitable trading partner
- Drawing up a general or a specific offer
- Handling the contract, divided into contract terms and contract fulfilment
- Sales promotion advertising and communication, sales organisation and participation in trade fairs.

13.1 Matching products and the product range

A product range of a PPE producer consists of several product groups (range width), each with several different product items (range depth). One product can consist of several executions.
A manufacturer/supplier can only select a suitable business partner if he/she is fully aware of exactly what range he/she can offer and the opposite is also valid: an importing business partner has to know which products or services are offered in order to select a business partner.

Do you want to be a niche player specialising in products, which not many other producers offer, or do you want to compete in the popular groups, with higher sales, but lower margins. There is a strong interaction between your product range and your marketing strategy. Furthermore, a precise review of your products helps in identifying the most suitable candidates out of the many potential trade channel customers.

Specifying the product characteristics
Within the PPE industry it is important to specify the product characteristics of your products. This includes:

- a short product description and eventually reference numbers
- method of use and its application
- information on material safety, proper usage hazardous materials
- packaging
- ordering and availability.

Buyers are also interested in a description of the production capacity, like numbers, types and age of the machines, the number and skills level of employees, minimum order quantity and the possibility for additional orders. The review must enable potential customers to make a brief appraisal of the complete product range. The review must therefore always be kept up-to-date.
The products and the range should be flexible so that adjustment and adaptation, if possible, can be executed according to buyers' wishes.

Packaging design
Special transport packaging is necessary to ensure that PPE products arrive in perfect condition at their destination. Unsuitable packaging often causes damage to the product. In general packaging requirements are very practical and do not call for sophisticated design, only when manufacturing products which are directly aimed at the end-consumer, attention should be paid to the marketing communication aspects of the design. Still, it should always be considered what the design of your packaging and your products communicates about your products and your company. Given similar products, packaging can give an additional feel and distinction to set it apart from its competitors.

The protective functions of packaging for shipment which require the packaging to ensure minimal environmental damage have been described briefly in chapter 9.1.3 (including the references to ITC).

13.2 Building up a relationship with a suitable trading partner

Among the many potential customers, you must identify those who match your own company profile and product range and are therefore most suitable for building up a relationship. At the end of the identification phase, you should have selected the names and addresses of suitable trading partners.

Sources of information to contact are in the producer's country:

- the country of destination's Chamber of Commerce for Foreign Trade, and/or
- the Economic Affairs departments of the country of destination's official representative (Embassy or Consulate).

Sources of information to contact in the country of destination are:

- Business Support Organisations (former Import Promotion Organisations)
- Trade Associations (see appendix 3.3)
- own country's public and private trade promotion bodies
- own country's diplomatic and consulate representatives
- Chambers of Commerce

- trade fair organisers, through printed catalogues or websites (see appendix 3.4)
- consulting trade press (see appendix 3.5)
- trade directories, like http://www.kompass.com or http://www.europages.com (see appendix 3.6)

It has to be noted that many sources of information only answer written inquiries, while a detailed inquiry improves the chances of precise identification.

Evaluate the received names and addresses, using the following criteria:
- Is the importer active in the country you have selected?
- Does the importer focus his activities on the corresponding, i.e. your, product groups?
- In which market segment is the importer active?
- Names of other suppliers to the importers?
- Enough sound information about the reliability of this partner?
- Check your potential buyers' financial status credibility if possible, for instance credit rating reports by Dunn and Bradstreet (http://www.dnb.com), otherwise always demand a LC (letter of credit).

Using these criteria, draw up a priority list of the contact addresses you have received.
When corresponding by mail, documentation on both the company and the corresponding products and, if applicable, information on quality certificates, should be sent in English and in full detail. The qualities and possibilities of the company need to be clearly communicated, such as the production capacity, processing facilities. It is not advisable to exaggerate the capacities. Most importing companies visit producers and exporters before placing orders, to get to know the business partner and to see for themselves the production and/or processing facilities and conditions. A further business trip to the EU can be the next step. This allows the exporter to establish direct and personal business contacts with the prospective partners. At the same time, it is possible to compare price, quality, and packaging in the market place.

13.3 Drawing up an offer

There are two kinds of offers: general and specific offers. The purpose of drawing up a general offer is to make the first contact with potential trading partners with whom you, the supplier, are not yet personally acquainted. A general offer consists of sending a short profile of your company and a summary of your product range. In some cases it might be helpful to send a reference list of existing customers (in countries other than the possible customer's one!). Write a personal letter, briefly introducing your company and what you have to offer.

A specific order is legally binding for a certain period of time. You must therefore be capable of fulfilling the terms of contract. A specific offer only should be made up when the business partner is known personally or after the initial contact has been made. A specific offer should consist of two parts: a written offer and/or product samples. The written offer includes:
- Name of the person responsible in your company
- Exact description of the goods offered (referring to requirements)
- Price of the goods in the agreed currency offered in accordance with Incoterms
- Possible delivery date and terms of delivery and the validity date of the offer.

A written offer can be accompanied by product samples, otherwise the offer is formed by sending product samples. While not a complete guarantee of quality, the sample, if it is of good quality, will inspire confidence in prospective buyers. It can also be useful in weeding out merchants who are simply not in the market for those products or those qualities.
- Product samples must correspond exactly to the goods available for delivery. If they do not, this may cause a lasting negative effect on business relations;
- State the treatment methods used, if possible provide a copy of your internationally acknowledged inspection organisation.

Recommendable action for both kinds of offers:
- Send in advance a copy of the AWB # (Air Way Bill number) to the contact person.
- Make a telephone check (the human voice, if master of the language, is the best means of communication) to ask whether the offer (and the samples, if applicable) has/have arrived.
- Send samples free of charge, but it is common practice to ask for a reasonable amount for size ranges and/or salesmen's samples.
- An invitation to visit the company.
- A proposal could be made to visit the country of destination. In that case (if necessary) an interpreter can be hired and your own consulate or other intermediaries can be asked for assistance.

Communication by e-mail is an excellent tool, especially when a reaction will be executed within 24 hours. This is a very positive sustaining element towards buyers, making a reliable impression and instilling confidence.
The most exacting aspect of exporting footwear, even for the established exporting company, is that of ensuring optimal exposure to, and communication with, decision-making personnel in a client company. The best method of achieving this objective is to have an able company representative in the country concerned. Such an individual must be proficient in the language of the target market. Ideally, he or she will have

thorough technical knowledge of the implications of provisions in trade contracts and should have access to rapid communication facilities. A personal sales visit should be attempted, accompanied by an adequate sample on offer.

13.4 Handling the contract

The contract is the starting point of trade, also for international business transactions. Around the contract revolves a series of connecting but distinct relationships, including transport arrangements, cargo insurance, Customs formalities and payment procedures. For a description of methods of delivery and payment, we refer to Incoterms 2000 (published by the World Chamber of Commerce) and CBI's Export Planner.
When handling the contract, you should consider the terms and the fulfilment:

Contract terms:
The delivery date of an order is always specified at the time of purchase. Suppliers should be aware that failure to meet the specified delivery will usually result in cancellation of the order or negotiations about claims for late delivery. The same procedure can be expected in the case of products not meeting the standards of quality agreed upon in the contract and/or established by approved samples, just like in the case of exclusivity claims.

Letters of credit, which offer basic protection to a developing country exporter, and bills of lading, which serve as documents of title, a contract of carriage and a receipt of goods, are all universally used in the footwear trade. In other cases, it has to be noticed that terms of payment vary per country and are around 90 days or longer in Italy and Spain, which is much more lengthy than in other major EU countries. Methods and terms of payment are discussed in the CBI brochure 'Exporting to the European Union.

In many cases, the importation of PPE is carried out on a CFR (cost and freight) basis. Under these terms, the seller or exporter clears the goods for export, pays the freight charges and delivers the goods on board ship. The risk passes to the buyer when the goods cross the ship's rails in the port of departure. The seller undertakes to provide the buyer with a negotiable bill of lading that can be endorsed to transfer ownership of the goods or pledge them to a financing bank. The insurance component is handled by the importer in the EU, primarily to facilitate payment in the event of a claim. Other conditions in use for PPE are CIF (cost, insurance and freight) and FOB (free on board). The delivery terms are laid down in the so-called Incoterms 2000, established by the International Chamber of Commerce.

Contract fulfilment:
Besides the general details in a contract like contract parties etc. and specific aspects like prices agreed, there are six specific area of significance in the PPE contract itself:

1. Rules governing international trade in PPE: all contracts have to specify the country of origin, eventually the quota category, and commodity and product codes. These details will facilitate administrative procedures at import destinations, in regard to controls established under the WTO on quantities admissible into the EU and for each product category.
2. Shipment date: it is imperative for the importer that availability dates are met, to ensure that the goods can be sold or delivered in the time for which they have been planned.
3. (Minimum) quality requirements: includes materials used and methods of making. Such an approach is necessary because of the direct correlation between material quality and the quality of end products. Testing procedures can be part of the contract.
4. Size: the size specifications are usually included in the contract.
5. Packaging: since it is vital for packing details to be closely adhered to.
6. Payment methods and delivery terms: as discussed above. If you cannot comply with any part of the agreement (e.g. delivery delays or quality problems), inform the customer clearly and in good time.

Fulfilling the contract should have a high priority, particularly when delivering for the first time, so procure the delivery documents on time; comply strictly with all parts of the supply agreement;
co-operate on a partnership basis and seek a common solution, even if conflicts arise.

13.5 Sales organisation and promotion

The term "sales organisation" refers to the organisational system that carries out the sales of the company's products. A sales organisation consists of desk sales force (office staff) and a field force (front liners). The scheme below gives a rather extended overview, which is however not representative for low service producers and not even for SMEs, which offer more services to their customers.

Activities of the desk sales force include:

- Selling, mainly by telephone;
- handling correspondence;
- handling offers and orders;
- issuing forwarding instructions;
- issuing and checking invoices;
- checking schedules;
- keeping customers records;
- expediting product samples;
- keeping sales statistics;
- evaluating markets;
- updating on standards, and
- intermediary for implementing

Field force includes:

- selling;
- visiting customers;
- presenting new products;
- discussing and implementing campaigns;
- discussing listings;
- holding periodical reviews with customers;
- implementing selling prices
- checking competitors edges, and
- collecting customer feedback.

Sales promotion measures develop and expand customer relations, which obligate the selling company to take good care of existing customers (continuity). This includes for example expressions of thanks to business partners, regular update on the product range; supplying brochures of the product range may be useful for promoting sales just like keeping business partners up-to-date on recent product developments. The consequences for production capacity can be that, in some cases, the production capacity has to be increased for existing customers, or the product range should be guided by demand and changes to the product range may become necessary.

Advertising and communication
Advertising refers to communication measures with the aim of increasing the sales of your products. The prerequisites for successful communication measures are a clearly defined target group ("Who buys my product?") and a well-formulated message ("What do I want to tell my customer?")
The following parameters are used to measure the costs of any communication action:
Cost per contact
> The costs to convey the message to one target person.
Total costs
> The costs of the whole campaign.
Dispersion losses
> The costs for messages that do not reach the right addressee (waste).

Standard printed matter
It is advisable to commence with communication methods, which require only a small amount of planning and co-ordination, such as revising the company's standard printed matter (letterheads, business cards, fax form, etc.). Prepare long-term sales documentation (company brochure, product range review, etc.) and product-specific sales folders. Constant, prompt and reliable communication is a vital prerequisite for maintaining a long-term business relationship with a customer. The fast changing collections make it necessary to develop a flexible promo-kit: keep the costs low, ensure maximum flexibility of the promotional materials.

Telephone or mailing campaigns
Once the on-going business (continuity) with customers has been established, the business is concluded by the modern means of communication: phone, fax and e-mail. A well functioning desk sales force and excellent communication skills are consequently an absolute prerequisite for successful market consolidation.
The essential tool used by the sales department is a detailed and up-to-date customer database. The

Criteria	Target group	Cost per contact	Total costs	Dispersion losses
Standard printed matter	Existing customers	+	+	+
Telephone and mailing campaigns	Existing and potential customers (known by name)	++	++	++
Own website	Existing and potential customers (partly unknown)	+	++	+
Advertising in trade journal	Existing and potential customers (partly unknown)	++	++	++
Participating in trade fairs	Existing and potential customers (partly unknown)	+++	+++	+

+++ = high ++ = medium + = low

customer database contains: basic data on the customer (e.g. long-term data such as name, address, telephone etc.); changing data resulting from contacts with the customer (such as phone calls, offers, sales statistics, etc.) and, the customer's specialisation in relation to his assortment.
The customer's database gives a desk sales person (or front liner) a quick review of the most important customer data when planning a telephone call, a direct mail (or a visit).
If possible, the customer database should be computerised, because this simplifies changes, updating, sorting and selection procedures, etc. If computerisation is not possible, the customer data should be kept on file cards.

Advertising in trade magazines
The number of important trade magazines with possibilities for advertising is rather limited. Only a few magazines can be mentioned for each major EU country, often one or more based on specific clothing, including protective clothing (like Corporate Clothing in the UK, Textil Wirtschaft in Germany and Texpress in The Netherlands) and mainly one based on working circumstances (like Health & Safety at Work in the UK, Die BG in Germany and Arbeidsomstandigheden in The Netherlands). Developing an original campaign is rather expensive and the effect of unrepeated advertisements is limited. A list of trade magazines is given in appendix 3.5 of this survey.

Participation in trade fairs
Participation in national and international trade fairs can be a useful sales promotion tool in the PPE sector. A list of trade fairs is given in appendix 3.4 of this survey, of which the German A + A fair is the leading one and has visitors (and exhibitors) from many other countries. Besides a heavy financial involvement (travelling, accommodation, sampling etc.), trade fair participation requires advance knowledge and a detailed survey because of its complex nature. A detailed description of the several stages from selection to preparation, to participation in EU trade fairs, including the follow-up can be found in CBI's 'Your Show Master'.

Appendices

APPENDIX 1 DETAILED CLASSIFICATION OF PPE BY COMBINED NOMENCLATURE

INDUSTRIAL OR OCCUPATIONAL CLOTHING:

HS Code	Product description
62.03.	Men's or boys' ensembles
22.100	--- of cotton
23.100	--- of synthetic fibres
29.110	--- of artificial fibres
	Men's or boys' jackets and blazers
32.100	--- of cotton
33.100	--- of synthetic fibres
39.110	--- of artificial fibres
	Men's or boys'
42.110	trousers and breeches of cotton
42.510	bib and brace overalls of cotton
43.110	trousers and breeches of synthetic fibres
43.310	bib and brace overalls of synthetic fibres
49.110	trousers and breeches of artificial fibres
49.310	bib and brace overalls of artificial fibres
62.04.	Women's or girls' ensembles
22.100	--- of cotton
23.100	--- of synthetic fibres
29.110	--- of artificial fibres
	Women's or girls' jackets and blazers
32.100	--- of cotton
33.100	--- of synthetic fibres
39.110	--- of artificial fibres
	Women's or girls'
62.110	trousers and breeches of cotton
62.510	bib and brace overalls of cotton
63.110	trousers and breeches of synthetic fibres
63.310	bib and brace overalls of synthetic fibres
69.110	trousers and breeches of artificial fibres
69.310	bib and brace overalls of artificial fibres
62.11.	Men's or boys' industrial and occupational clothing (excluding knitted or crocheted)
32.100	--- of cotton
33.100	--- of man-made fibres
62.11.	Women's or girls' aprons, overalls, smock-overalls and other industrial and occupational clothing (excluding knitted or crocheted)
42.100	--- of cotton
43.100	--- of man-made fibres

GLOVES:

40.15.11.000	Surgical gloves of vulcanised rubber other than hard rubber
19.100	Household gloves of vulcanised rubber other than hard rubber
19.900	Other gloves of vulcanised rubber other than hard rubber
42.03.29.100	Leather and artificial leather protective gloves for all occupations
61.16.10.200	Gloves, impregnated, coated or covered with rubber, knitted or crocheted
61.16.10.800	Mittens and mitts, impregnated, coated or covered with plastic or rubber, knitted or crocheted and gloves impregnated, coated or covered with plastic, knitted or crocheted

FOOTWEAR:

64.01.10.	Waterproof footwear with outer soles and uppers of rubber or plastic, the uppers of which are neither fixed to the sole nor assembled by stitching, riveting, nailing, screwing, plugging or similar processes, incorporating a protective metal toe cap:
100	-- with uppers of rubber
900	-- with uppers of plastic
64.02.30.000	Other footwear with outer soles and uppers of rubber or plastic, incorporating a protective metal toe cap with uppers of rubber or plastic
64.03.40.000	Footwear with outer soles of rubber, plastic, leather or composition leather and uppers of leather, incorporating a protective metal toe cap

HEADGEAR:

65.06.10.	Safety headgear:
100	-- of plastic
800	-- other than plastic

OTHER PROTECTIVE EQUIPMENT:

90.04.90.	Protective glasses:
100	-- of plastic
900	-- other than plastic
90.20.00.100	Full breathing appliances and gas masks for civil aircraft
90.20.00.900	Breathing appliances and gas masks

APPENDIX 2 SPECIFICATION OF IMPORTS AND EXPORTS OF PPE BY PRODUCT TYPE INTO THE EU, 1999-2001

Table 2-1 EU imports of PPE by type of product in volume and value, 1999-2001

	1999		2000		2001	
	Volume tons	€ '000	Volume tons	€ '000	Volume tons	€ '000
Workwear						
Men's or boys'						
- cotton ensembles	1,155	16,211	1,268	18,870	1,780	32,809
- synthetic fibres ensembles	503	10,764	562	12,720	602	13,727
- artificial fibres ensembles	205	2,360	263	3,065	264	4,556
- cotton jackets	4,671	65,761	4,798	70,063	4,625	67,295
- synthetic fibres jackets	4,453	82,646	5,005	102,732	5,174	107,651
- artificial fibres jackets	308	7,070	308	6,512	162	5,041
- cotton trousers	11,139	157,483	11,188	165,265	11,256	159,104
- cotton bib'n brace overalls	6,545	74,474	6,159	74,310	6,421	74,497
- synthetic trousers	6,864	118,766	7,827	125,387	8,306	141,410
- synthetic bib'n brace overalls	3,831	61,979	3,686	68,013	3,710	64,480
- artificial fibres trousers	186	6,015	263	7,809	190	5,576
- artificial bib'n brace overalls	157	2,988	92	2,759	62	1,731
Other occupational clothing of:						
- cotton	14,023	167,131	14,607	175,302	14,096	171,334
- man-made fibres	10,830	178,395	13,481	220,871	13,646	236,001
Women's and girls'						
- cotton ensembles	167	3,640	166	2,837	206	3,161
- synthetic fibres ensembles	234	5,460	229	5,540	285	5,187
- artificial fibres ensembles	22	943	11	570	6	256
- cotton jackets	212	4,357	204	4,790	271	6,406
- synthetic fibres jackets	522	13,025	567	12,575	685	13,395
- artificial fibres jackets	43	1,789	19	961	26	1,437
- cotton trousers	886	16,008	1,211	24,261	1,593	29,686
- cotton bib'n brace overalls	141	1,709	184	2,103	116	1,129
- synthetic trousers	645	12,552	933	17,708	1,067	19,810
- synthetic bib'n brace overalls	187	3,365	57	1,191	51	1,485
- artificial fibres trousers	42	1,620	116	3,526	84	2,942
- artificial bib'n brace overalls	16	213	5	225	7	304
Other occupational clothing of:						
- cotton	6,808	76,742	7,372	108,621	7,865	121,930
- man-made fibres	4,957	81,051	5,734	93,030	6,318	100,485
Total imports workwear	**79,752**	**1174,517**	**86,315**	**1331,616**	**88,874**	**1392,825**
-- from outside the EU	66,994	901,658	71,070	1012,749	75,818	1101,644
-- from developing countries	**40,615**	**518,151**	**43,569**	**582,093**	**46,238**	**617,517**

continue

continued

	1999		2000		2001	
	Volume tons	**€ '000**	**Volume tons**	**€ '000**	**Volume tons**	**€ '000**
Protective gloves	**mln pairs**	**€ '000**	**mln pairs**	**€ '000**	**mln pairs**	**€ '000**
- rubber surgical gloves	1,782	309,615	1,701	327,344	1,803	356,764
- rubber household gloves	494	90,201	459	95,145	542	95,852
- other rubber gloves	1,582	269,496	1,826	314,657	2,152	315,976
Leather (incl. artificial) gloves	341	255,634	354	285,827	336	281,243
Cotton impregnated, coated etc.:						
- with rubber	91	108,605	100	112,981	94	104,846
- with plastic	60	55,979	76	77,538	80	75,013
Total imports protective gloves	**4,350**	**1089,530**	**4,516**	**1213,492**	**5,007**	**1229,694**
-- from outside the EU	3,480	825,437	3,553	920,034	3,897	944,325
-- from developing countries	**2,604**	**686,798**	**2,848**	**771,562**	**3,679**	**825,404**
Protective footwear	**' 000 pairs**		**' 000 pairs**		**' 000 pairs**	
Waterproof with uppers of rubber	643	10,029	794	12,850	602	9,803
Waterproof with uppers of plastic	2,037	18,803	1,872	16,256	2,432	20,043
Other, uppers rubber or plastic	208	3,866	420	6,751	476	8,179
Other with uppers of leather	19,742	344,080	25,275	421,387	27,434	441,981
Total imports footwear	**22,630**	**376,778**	**28,361**	**457,244**	**30,944**	**480,006**
-- from outside the EU	8,860	122,964	12,605	166,247	14,050	189,425
-- from developing countries	**7,114**	**96,239**	**10,162**	**136,780**	**11,418**	**160,418**
Protective headgear	**'000 units**		**'000 units**		**'000 units**	
Plastic	14,696	205,816	19,160	242,340	18,401	236,348
Other materials	3,973	80,250	6,374	119,076	7,353	92,065
Total imports headgear	**18,669**	**286,066**	**25,534**	**361,416**	**25,754**	**328,413**
-- from outside the EU	6,317	97,484	11,541	149,688	13,060	137,144
-- from developing countries	**2,713**	**22,440**	**6,629**	**36,944**	**9,004**	**47,547**
Protective glasses	**tons**		**tons**		**tons**	
Plastic	4,549	127,306	5,066	150,424	6,739	149,736
Other materials	2,209	78,862	2,726	86,281	2,802	78,979
Total imports protective glasses	**6,758**	**206,168**	**7,792**	**236,705**	**9,541**	**228,715**
-- from outside the EU	4,852	133,999	5,806	160,004	7,149	151,803
-- from developing countries	**2,413**	**45,749**	**3,236**	**66,568**	**3,469**	**70,745**
Breathing appliances	**tons**		**tons**		**tons**	
for civil aircraft	70	11,510	43	15,956	69	17,087
Other	4,540	203,907	5,426	256,121	9,324	228,909
Total breathing appliances	**4,610**	**215,417**	**5,469**	**272,077**	**9,393**	**245,996**
-- from outside the EU	1,314	52,681	1,327	63,000	1,317	70,957
-- from developing countries	**170**	**3,858**	**182**	**5,842**	**127**	**7,101**
	tons		**tons**		**tons**	
Total PPE imports	**420,908**	**3348,476**	**457,714**	**3872,550**	**462,718**	**3905,649**
-- from outside the EU	276,158	2134,223	300,890	2471,722	316,832	2595,298
-- from developing countries	**219,599**	**1373,235**	**240,107**	**1599,782**	**262,988**	**1728,732**

Source: Eurostat

Table 2-2 EU exports of PPE by type of product, 1999-2001

	1999		2000		2001	
	Metric tons	€ '000	Metric tons	€ '000	Metric tons	€ '000
Workwear						
Men's or boys'						
- cotton ensembles	558	12,041	846	12,985	1,897	28,495
- synthetic fibres ensembles	332	8,688	465	10,202	259	7,832
- artificial fibres ensembles	495	5,814	480	6,405	328	4,872
- cotton jackets	999	17,995	1,191	25,797	1,006	25,654
- synthetic fibres jackets	1,984	57,678	1,678	44,658	1,959	50,594
- artificial fibres jackets	152	2,543	42	1,822	42	2,557
- cotton trousers	3,012	64,286	2,729	63,985	2,874	64,269
- cotton bib'n brace overalls	1,310	18,641	1,369	21,922	1,502	22,514
- synthetic trousers	2,507	59,355	2,704	59,295	2,762	64,190
- synthetic bib'n brace overalls	1,483	29,381	1,536	30,923	1,437	34,659
- artificial fibres trousers	60	1,791	67	3,008	51	2,214
- artificial bib'n brace overalls	77	1,761	61	1,661	28	963
Other occupational clothing of:						
- cotton	3,543	48,918	3,286	53,337	3,647	52,366
- man-made fibres	4,242	107,532	4,746	106,289	6,520	117,561
Women's and girls'						
- cotton ensembles	111	4,494	82	2,393	27	1,450
- synthetic fibres ensembles	46	2,495	62	2,787	88	2,102
- artificial fibres ensembles	46	3,068	20	1,212	8	816
- cotton jackets	54	1,598	257	3,017	74	3,500
- synthetic fibres jackets	1,407	7,125	367	9,516	159	9,264
- artificial fibres jackets	51	2,119	24	653	12	383
- cotton trousers	349	11,361	622	14,841	567	18,543
- cotton bib'n brace overalls	29	426	10	388	25	829
- synthetic trousers	378	10,122	353	12,820	444	21,132
- synthetic bib'n brace overalls	19	561	33	1,157	34	1,036
- artificial fibres trousers	63	3,344	98	4,940	35	2,014
- artificial bib'n brace overalls	3	120	9	433	11	181
Other occupational clothing of:						
- cotton	2,269	24,384	1,909	27,547	6,411	26,886
- man-made fibres	2,135	55,024	2,245	70,709	2,156	68,755
Total exports workwear	**27,714**	**562,665**	**27,291**	**594,702**	**34,363**	**635,631**
-- outside the EU	9,500	161,768	9,904	187,884	10,979	214,373
Protective gloves						
- rubber surgical gloves	22,572	141,951	17,289	127,690	18,840	114,744
- rubber household gloves	3,867	22,170	3,784	20,597	3,603	19,625
- other rubber gloves	12,229	105,168	16,150	132,863	17,219	139,324
Leather (incl. artificial) gloves	5,152	37,433	6,919	46,486	5,923	43,964
Cotton impregnated, coated etc.:						
- with rubber	5,118	81,103	6,091	87,597	5,400	88,754
- with plastic	1,651	22,239	2,310	26,770	1,556	33,141
Total protective gloves	**50,589**	**410,064**	**52,543**	**442,003**	**52,541**	**439,552**
-- outside the EU	11,772	92,928	13,031	106,071	13,073	100,013

continue

continued

	1999		2000		2001	
	Metric tons	**€ '000**	**Metric tons**	**€ '000**	**Metric tons**	**€ '000**
Protective footwear						
Waterproof with uppers of rubber	1,819	7,444	891	8,419	958	8,518
Waterproof with uppers of plastic	2,616	20,992	1,636	24,909	1,751	31,344
Other, uppers rubber or plastic	358	4,588	391	5,554	618	8,257
Other with uppers of leather	18,200	320,891	20,010	369,927	22,993	399,211
Total protective footwear	**22,993**	**353,915**	**22,928**	**408,809**	**26,320**	**447,330**
-- outside the EU	5,122	64,378	4,608	70,643	6,256	95,994
Protective headgear						
Plastic	8,070	233,492	9,274	272,809	8,878	262,855
Other materials	2,574	87,039	2,716	96,621	2,380	88,036
Total headgear	**10,644**	**320,531**	**11,990**	**369,430**	**11,258**	**350,891**
-- outside the EU	2,869	95,377	3,375	116,598	3,146	100,919
Protective glasses						
Plastic	2,198	101,634	2,407	137,848	3,835	177,177
Other materials	1,594	128,306	1,113	86,490	1,191	107,341
Total protective glasses	**3,792**	**229,940**	**3,520**	**224,338**	**5,026**	**284,518**
-- outside the EU	1,220	73,630	1,340	105,619	1,472	148,399
Breathing appliances						
for civil aircraft	132	19,107	120	23,853	86	23,052
other	4,637	299,015	5,558	330,459	10,786	328,804
Total breathing appliances	**4,769**	**318,122**	**5,678**	**354,312**	**10,872**	**351,856**
-- outside the EU	1,761	116,477	1,975	142,911	7,248	168,097
Total PPE exports	**120,501**	**2195,237**	**123,950**	**2393,693**	**198,080**	**2509,778**
-- outside the EU	32,244	604,558	34,233	729,726	42,174	827,795

Source: Eurostat

APPENDIX 3 USEFUL ADRESSESS

3.1 Standards organisations

General information concerning standards for Personal Protective Equipment can be obtained from:
CEN (Comité Européen de Normalisation)
E-mail: infodesk@cenorm.be
Website: www.cenorm.be

ISO (International Standard Organisation)
E-mail: central@iso.org
Website: www.iso.org

Information concerning textile care labelling in EU countries can be obtained from:
GINETEX (Groupement international d'etiquetage pour l'entretien des textiles)
E-mail: ginetex@hotmail.com
Website: www.ginetex.org

3.2 Sources of price information

Most effective ways to find prices of EU distributors:
Visiting trade fairs (refer to appendix 3.4)
Browsing websites of EU suppliers, like http://www.cover-up.co.uk
Browsing websites of competitors or looking for general sites like http://www.globalsources.com or http://www.alibaba.com

3.3 Trade associations

EU

PPE suppliers: **European Safety Federation (ESF)**
European manufacturers, suppliers and distributors of PPE
E-mail: info@european-safety-federation.org
Website: http://www.european-safety-federation.org

Clothing Industry: **Euratex**
The European Apparel and Textile Organisation
E-mail: info@euratex.org
Website: http://www.euratex.org

FRANCE

PPE suppliers: **Synamap**
E-mail: ufih@wanadoo.fr
Internet : http://www.lamodefrancaise.tm.fr

Clothing Industry: **UFIH** (Union Francaise des Industries de l'Habillement)
Association of the French Clothing Industry
Address: 8, rue Montesquieu, 75001 Paris, France
Telephone: +33 1 4296 2415
Telefax: +33 1 4296 4841

GERMANY

PPE suppliers: **IVPS**
E-mail: ivps.berlin@t-online.de
Website: http://www.ivps.de

Clothing Industry: **Bundesverband Bekleidungsindustrie e.V.**
E-mail: bbi@bbi-online.de
Website: http://www.bekleidungsindustrie.de

Wholesale: **Gesamtverein des deutschen Textilgrosshandel**
Adress: Neumarkt 35-37, 50667 Cologne, Germany
Telephone: +49 221 217 092
Telefax: +49 221 212 898

ITALY

PPE suppliers: **Assosic**
E-mail: anima@anima-it.com
Website: http://www.anima-it.com

Clothing Industry: **Sistema Moda Italia (SMI)**
E-mail: costa@sistemodaitalia.it
Website: http://www.sistemodaitalia.it

THE NETHERLANDS

PPE suppliers: **AVAG**
E-mail: rbrinks@mmm.com

Clothing Industry: **Modint**
E-mail: info@modint.nl
Website: http://www.modint.nl

Wholesale **FTGB** (Federatie Textiel Groothandelsbonden)
E-mail: info@ftgb.nl
Website: http://www.ftgb.nl

SPAIN

PPE suppliers: **ASEPAL**
E-mail: asepal@mad.servicom.es
Clothing Industry: **Fedecon**
Address: Princessa 25-6-1, 28008 Madrid, Spain
Telephone: +34 1 541 4094
Telefax: +34 1 542 3352

UK

PPE suppliers: **BSIF**
E-mail: b.s.i.f@virgin.net
Website: http://www.bsif.co.uk

Clothing Industry: **British Apparel & Textile Confederation (BATC)**
E-mail: batc@dial.pipex.com
Website: http://www.batc.co.uk

3.4 Trade fair organisers

GERMANY

A + A, Occupational Safety+Health at Work
(International trade fair for protective equipment)
Sectors: equipment, devices and auxilliary materials for all kinds of (personal) protection
Frequency: biennial (once in two years), next in October 2003
Organization: Düsseldorfer Messe GmbH
E-mail: info@messe-duesseldorf
Website: http www.messe-duesseldorf.de

Techtextil
International trade fair for technical textiles and non-wovens
Sectors: woven and knitted fabrics and non-wovens; textiles for agriculture and horticulture, industrial textiles, medical textiles etc.
Frequency: biennial (once in two years)
E-mail: info@mfa.messefrankfurt.com
Website: http://www.mfa.messefrankfurt.com

Arbeitsschutz Aktuell
Industrial Safety Trade Fair and Congress
Sectors: all sectors of security techniques and workmen's personal and mechanical security
Frequency: biennial, next in October 2004
E-mail: info@hinte-messe.de
Website: http://www.hinte-messe.de/arbeitsschutz-aktuall

Hogatec
International fair for hotels, gastronomy and catering
Sectors: equipment for hotels, restaurants, industrial kitchen etc.
Frequency: biennial, next in November 2004
E-mail: info@messe-duesseldorf
Website: http://www.messe-duesseldorf.de

Intergastra
Segments: Equipment for hotel, restaurant, café and confectionery, including linen and garments
Frequency: biennial, next in February-March 2004
E-mail: info@messe-stuttgart.de
Internet: http://www.messe-stuttgart.de

Texcare International
Sectors: machinery for laundry, textiles for leasing services etc.
Frequency: annual, in June
E-mail: info@mfa.messefrankfurt.com
Internet: http://www.mfa.messefrankfurt.com

Medizin
Trade Exhibition for Equipment for Surgeries and Hospitals
Segments: medical equipment for hospitals including clothing
Frequency: annual, in January
E-mail: info@messe-stuttgart.de
Internet: http://www.messe-stuttgart.de

FRANCE

International Work Wear Expo
International trade fair of professional garments
Segments: workwear, uniforms and corporate clothing
Frequency: annual, in April
E-mail: info@workwear.expo.com
Internet: http://www.workwearexpo.com

THE NETHERLANDS

Horecava (trade fair for hotel and catering industry)
Segments: hotels, restaurants, cafés and allied industries
Frequency: annual, in January
E-mail: press@rai.nl
Internet: http://www.rai.nl

Arbo
(International fair for working circumstances including Jobfashion)
Segments: hotels, restaurants, cafés and allied industries
Frequency: annual, next in January 2004
Organisation: RAI International Exhibition and Congress Centre
Address etc.: see Horecava

Other trade fairs for specific branches, where PPE is also applicable, are: Bedrijfsauto Rai (International Commercial Vehicles Show), Bakery Trade Fair, Autovak (garage equipment), Bouw Rai (Trade Fair for Building Construction). All these trade fairs are organised by RAI (see under Horecava).

Medica
International Hospital Equipment Exhibition Organisation
Segments: medical technology and medical supply
Frequency: biennial, next in March 2003
E-mail: info@jaarbeursutrecht.nl
Internet: http://www.jaarbeursutrecht.nl

SPAIN

Laboralia
Prevention, Protection, Safety and Health at Work Trade Fair
Sectors: personal protective equipment and fire prevention
Frequency: biennial, next in November 2003
E-mail: info@feriavalencia.com
Internet: http://www.feriavalencia.com

Sicur
International Security, Safety and Fire Protection Trade Fair
Sectors: fire-fighting, services and equipment
Frequency: biennial, next in February-March 2004
E-mail: infoifema@ifema.es
Internet: http://www.ifema.es

UNITED KINGDOM

Career and Workwear Show
Sectors: corporate wear
Frequency: biennial, next in October 2003
Internet: http://www.cwshow.co.uk

London Corporatewear Week
Sectors: corporate wear
Frequency: annual, in March
Internet: http://www.londoncorporateweek.com

Health and Safety Expo (a)/International Fire Expo (b)
Sectors: (a) product and services for safety, occupational health etc.
(b) fire-fighting etc.
Frequency: annual, in May
Internet: http://www.unmf.co.uk

3.5 Trade press

UNITED KINGDOM

Company Clothing
E-mail: ccis@company-clothing.co,uk
Internet: www.company-clothing.co.uk
Frequency: monthly
Language: English
Content: workwear and careerwear information

Health & Safety at work
E-mail: hsw@butterworths.co.uk
Frequency: monthly
Language: English
Content: health and safety in working circumstances and the environment, including legislation on national and EU level

Textile Outlook International
E-mail: textintell@aol.com
Frequency: 6 times a year
Language: English
Content: world-wide production and trade information on textiles and clothing

Technical Textiles
Same publisher as Textile Outlook International
Frequency: 4 times a year
Content: world-wide production and trade information on technical textiles

GERMANY

Die BG
Internet: http://www.hvbg.de
Frequency: monthly
Language: German
Content: health and safety in working circumstances and the environment, including legislation on national and EU level.

Textil Mitteilung en (TM)
Frequency: weekly
Language: German
Content: production, trade and fashion information on textile and clothing

Textil Wirtschaft (TW)
Internet: http://www.Twnetwork.de
Frequency: weekly
Language: German
Content: production, trade and fashion information on textiles and clothing

THE NETHERLANDS

Arbeidsomstandigheden
E-mail: klantenservice@samsom.nl
Frequency: 11 times a year
Language: Dutch
Content: health and safety at work in general, information about legislation, directives etc

Textilia
E-mail: textilia@bpa.vnu.com
Frequency: weekly
Language: Dutch
Content: trade magazine for clothing and textiles

Texpress
E-mail: texpress@bpa.vnu.com
Frequency: weekly
Language: Dutch
Content: magazine for textiles industry and trade in Belgium and The Netherlands

3.6 Other useful addresses

The following organisations can supply useful information on quota, import duties, import licences and other trade re-gulations.

Import duties
Netherlands Customs Directorate
E-mail: info@douane.nl
Internet: http://www.douane.nl

Import duties, tariffs, taxes and regulations
Ministry of Finance, Department for Tariffs and Quota
E-mail: minfin@minfin.nl
Internet: http://www.minfin.nl

Import licences, certificates, procedures:
Central Services for Import & Export
Internet: http://www.belastingdienst.nl

More information about the market and other general information can be obtained from the following addresses:

Netherlands Foreign Trade Agency
Part of the Ministry of Economic Affairs
E-mail: infoservice@evd.nl
Internet: http://www.hollandtrade.com

Chamber of Commerce & Industries for Rotterdam and the Lower-Meuse
E-mail: post@rotterdam.kvk.nl
Internet: http://www.kvk.nl

Chamber of Commerce & Industries for Amsterdam
E-mail: post@amsterdam.kvk.nl
Internet: http://www.amsterdam.kvk.nl

Indication of tenders, CE-marking, European rules for working and environmental circumstances:

EU Trade Information
E-mail: info@egadvies.nl
Internet: http://www.egadvies.nl

The following trade directories are free available for various European countries in different languages.

Kompass
E-mail: info@kompass.nl
Internet: http://www.kompass.nl

ABC of trade and industry
E-mail: info@abc-d.nl
Internet: http://www.abc-d.nl

Europages
E-mail: comments@europages.com
Internet: http://www.europages.com

General information for trade-related environmental, health & safety and social & ethical issues
Access Guide
E-mail: accessguide@cbi.nl
Internet: http://www.cbi.nl

Contact point EU ECO-label:
Commission of the European Communities, DG XI-A-2
E-mail: dgxiweb@dg11,cec.be
Internet: http://www.europa.eu.int/comm/dg11

Contact points for environmental labels:
Stichting Milieukeur
E-mail: ecomarkt@ecomarkt.nl
Internet: http://www.milieukeur.nl

Zertifizierungsstelle
Frankfurter Straße 10-14, D-65760 Eschborn, Germany
Telephone: +49 6196 966230
Telefax: +49 6196 966226

Statistical information sources:
CBS
(Central Bureau of Statistics in The Netherlands)
E-mail: infoservice@cbs.nl
Internet: http://www.cbs.nl

CITH
Address: Rue Montoyer, 24 B-1040 Brussels, Belgium
Telephone: +32 2 2307629
Telefax: +32 2 2306054

OETH
E-mail: info@oeth.com
Internet: http://www.oeth.com

BBI
Internet: http://www.bekleidungsindustrie.de

Eurostat Data Shop
E-mail: datashop.brussel@eurostat.cec.be
Internet: http://www.europa.eu.int/

Economist Intelligence Unit
Internet: http://www.eiu.com

APPENDIX 4 LIST OF DEVELOPING COUNTRIES

Please note that the OECD list of developing countries, as applied in this market survey, may include countries that are usually not considered as developing countries (e.g. South Korea).

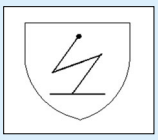
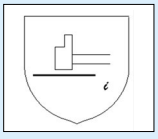
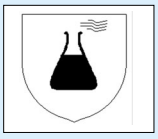
Afghanistan
Albania
Algeria
Angola
Anguilla
Antigua and Barbuda
Argentina
Armenia
Aruba
Azerbaijan
Bahrain
Bangladesh
Barbados
Belize
Benin
Bhutan
Bolivia
Bosnia & Herzegovina
Botswana
Brazil
Burkina Faso
Burundi
Cambodia
Cameroon
Cape Verde
Central African rep.
Chad
Chile
China
Colombia
Comoros
Congo
Cook Islands
Costa Rica
Côte d'Ivoire
Croatia
Cuba
Djibouti
Dominica
Dominican republic
Ecuador
Egypt
El Salvador
Equatorial Guinea
Eritrea
Ethiopia
Fiji
French Polynesia
Gabon
Gambia
Georgia
Ghana
Gibraltar
Grenada
Guatemala
Guinea
Guinea-Bissau
Guyana
Haiti
Honduras
India
Indonesia
Iran
Iraq
Jamaica
Jordan
Kazakstan
Kenya
Kiribati
Korea, Rep. of
Korea, South
Kyrghyz Rep.
Laos
Lebanon
Lesotho
Liberia
Libya
Macao
Macedonia
Madagascar
Malawi
Malaysia
Maldives
Mali
Malta
Marshall Islands
Mauritania
Mauritius
Mayotte
Mexico
Micronesia, Fed. States
Moldova
Mongolia
Montserrat
Morocco
Mozambique
Myanmar
Namibia
Nauru
Nepal
Netherlands Antilles
New Caledonia
Nicaragua
Niger
Nigeria
Niue
Northern Marianas
Oman
Pakistan
Palau Islands
Palestinian Admin. Areas
Panama
Papua New Guinea
Paraguay
Peru
Philippines
Rwanda
São Tomé & Principe
Saudi Arabia
Senegal
Seychelles
Sierra Leone
Slovenia
Solomon Islands
Somalia
South Africa
Sri Lanka
St. Helena
St. Kitts-Nevis
St. Lucia
St. Vincent and Grenadines
Sudan
Surinam
Swaziland
Syria
Tajikistan
Tanzania
Thailand
Timor
Togo
Tokelau
Tonga
Trinidad & Tobago
Tunisia
Turkey
Turkmenistan
Turks & Caicos Islands
Tuvalu
Uganda
Uruguay
Uzbekistan
Vanuatu
Venezuela
Vietnam
Virgin Islands (UK)
Wallis & Futuna
Western Samoa
Yemen
Yugoslavia, Fed. Rep.
Zaire
Zambia
Zimbabwe

APPENDIX 5 USEFUL INTERNET SITES

The website of the EG Advice Centre **http://www.egadvies.nl** provides consultancy, assistance and information to companies on doing business in the EU. For instance you can contact the Centre for items like CEN standards, CE marking, packaging, labelling of products according to EU legislation; European safety and environment directives.
Many bookmarks are mentioned on this site, like several institutions of the EU, databases, public procurement, standardisation, environment etc.
Other websites with general information about CE standards, notified bodies etc. for the EU are **http://europa.eu.int/comm/ ; http://www.conformance.co.uk** or **http://gallery.uunet.be/esf/** (home site of the ESF).
Several notified bodies have websites with a lot of information, a good example being the site of Inspec in the UK **http://www.inspec-cert.com/**.
The Netherlands Institute of Welding publishes the various welding standards for the industry on **http://www.nil.nl**
The website **http://www.etsa-europe.org** gives besides general PPE information references to research institutes, textile services and other industry associations and under 'specialised press' more specific PPE information.
Information and addresses can be found on several websites, such as the following trade directories which are freely available, covering various European countries, in different languages:
Kompass: **http://www.kompass.nl**; ABC of trade and industry: **http://www.abc-d.nl**; Europages: **http://www.europages.com**. The extended catalogue of participants from many countries in the latest A + A fair in Germany can be consulted on **http://www.messe-duesseldorf.de**
The website **http://industrialrent.com** gives you a detailed list of addresses of textiles, workwear and protective clothing lease companies in several countries and in several languages.
Textil Wirtschaft, a leading German trade magazine, gives addresses of about 100 German manufacturers/distributors in workwear and PPE on **http://www.Twnetwork.de**.

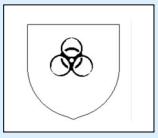
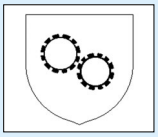
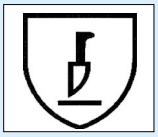
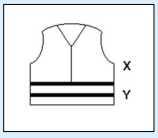
Internationally operating consultants, research institutes etc. publish several surveys or excerpts from recent publications concerning workwear, protective clothing, technical textiles etc. on Internet like on **http://www.keynote.co.uk**; **http://www.davidrigbyassociates.com** and **http://www.kurtsalmon.com**

APPENDIX 6 PICTOGRAMS USED IN THE PPE SECTOR

	PROTECTION AGAINST FOUL WEATHER	ENV 343:	Protective clothing against foul weather
	PROTECTION AGAINST COLD	ENV 342: EN 511:	Protective clothing against cold Protective gloves against cold
	PROTECTION AGAINST STATIC ELECTRICITY	EN 1149-1: prEN 12477:	Protective clothing part1 : surface resistivity Protective gloves for welders
	PROTECTION AGAINST HEAT AND FLAME	EN 407: EN 531: EN 533: prEN 12477:	Protective gloves against thermal risks Protective clothing against industrial heat Protective clothing against heat and flame - Limited flame spread materials Protective gloves for welders
	PROTECTION AGAINST MECHANICAL RISKS	EN 388:	Protective gloves against mechanical risks
	PROTECTION AGAINST CHEMICALS	EN 465: EN 466: EN 467: EN 374-1: prEN 1511: prEN 1512: prEN 1513:	Protective clothing against liquid chemicals - requirements for clothing with spray-tight connections between the parts (type 4) Protective clothing against liquid chemicals - requirements for clothing with liquid tight connections between the parts (type 3) protective clothing- requirements for clothing offering protection to parts of the body Protective gloves against chemicals Protective clothing against liquid chemicals - requirements for limited use clothing with liquid-tight connections between the parts (type 3) Protective clothing against liquid chemicals - requirements for limited use clothing with spray-tight connections between the parts (type 3) Protective clothing against liquid chemicals - requirements for limited use clothing offering protection to parts of the body

continue

continued

	PROTECTION AGAINST MICRO-ORGANSISMS	EN 374-1:	Protective gloves against chemicals
	PROTECTION AGAINST MOVING PARTS	EN 510:	Protective clothing against mechanical entanglement - requirements for protective clothing against being caught by moving machine parts
	PROTECTION AGAINST RADIO-ACTIVE CONTAMINATION	EN 1073-1:	Protective clothing against radio-active contamination - part 1: requirements and test methods for ventilated protective clothing against particulate radio-active contamination
	PROTECTION AGAINST IMPACT CUT	EN 388: EN 1082-1:	Protective gloves against mechanical risks Protective gloves and arm guards protection against cuts and stabs by hand knives - chain mail gloves and arm guards
	PROTECTION AGAINST LOW VISIBILITY	EN 471:	Protective clothing - high visibility clothing
	PROTECTION AGAINST HEAT AND FIRE HAZARD FOR FIRE FIGHTERS	EN 659: EN 469:	Protective gloves for fire-fighters Protective clothing - requirements for fire fighter's protective clothing

CBI: YOUR EUROPEAN PARTNER FOR THE EUROPEAN MARKET

The CBI (Centre for the Promotion of Imports from developing countries) is an agency of the Dutch Ministry of Foreign Affairs. The CBI was established in 1971. The CBI's mission is to contribute to the economic development of developing countries by strengthening the competitiveness of companies from these countries on the EU market. The CBI considers social values and compliance with the most relevant environmental requirements to be an integral part of its policy and activities.

CBI offers various programmes and services to its target groups:

Market information
A wide variety of tools to keep exporters and Business Support Organisations (BSOs) in developing countries in step with the very latest development on the EU market.
These include market surveys and strategic marketing guides for more than 40 product groups, manuals on export planning and other topics, fashion and interior forecasts and the CBI News Bulletin, a bi-monthly magazine. This information can also be obtained from our website at www.cbi.nl For all information on non-tariff trade barriers in the EU CBI has a special database, AccessGuide, at www.cbi.nl/accessguide
And finally CBI's Business Centre is offering free office facilities, including telephones, computers, internet and copiers for eligible exporters and BSOs. Market reports, international trade magazines, cd-roms and much more can be consulted in the information section of the business centre.

Company matching
The company matching programme links well-versed suppliers in developing countries to reliable importing companies in the EU and vice versa. The online matching database contains profiles of hundreds of CBI-audited and assisted exporters in developing countries that are ready to enter into various forms of business relationships with companies in the EU, as well as many EU companies interested in importing or other forms of partnerships such as subcontracting or private labelling.

Export development programmes (EDPs)
EDPs are designed to assist entrepreneurs in developing countries in entering and succeeding on the EU market and/or in consolidating or expanding their existing market share. Selected participants receive individual support over a number of years by means of on site consultancy, training schemes, trade fair participation, business-to-business activities and general export market entry support. Key elements usually include technical assistance in fields such as product adaptation, improving production, implementing regulations and standards and export marketing and management assistance.

Training programmes
Training programmes for exporters and BSOs on, among others, general export marketing and management; trade promotion; management of international trade fair participations and developing client-oriented market information systems. The duration of the training programmes vary between two days and two weeks and are organized in Rotterdam or on location in developing countries.

BSO development programme
Institutional support for capacity building for selected business support organisations.
The programme is tailored to the specific needs of participating BSOs and can include train-the-trainer assistance, market information systems support and staff training. CBI's role is advisory and facilitative.

Please write to us in English, the working language of the CBI.

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