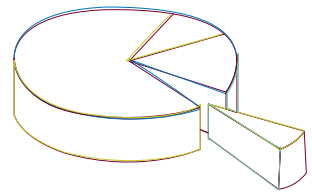
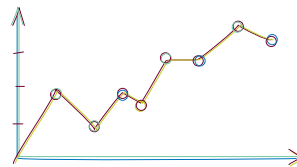
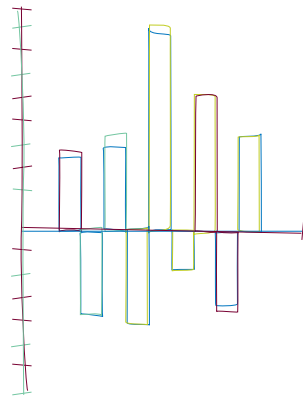
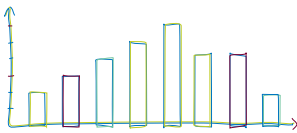


THE SOCIO-ECONOMIC IMPACT OF FRAGRANCE TECHNOLOGIES IN EUROPE





Amalia Sartori,
Member of the European Parliament
and Chair of the Committee on Industry, Research and Energy

The fragrance industry, as well as bringing a sense of joy and wellbeing to people's lives, also contributes an enormous amount to Europe's international competitiveness. The multitude of fragrances creates enormous value for European manufacturers and retailers by meeting the needs of consumers every day. These commercial benefits, and the manufacturing and retailing activity linked to them result in significant numbers of jobs and contribute substantially to the wealth and competitiveness of Europe. We need to create the right conditions for flagship creative industries such as this to thrive and prosper.



Antonio Tajani,
Vice-President of the European Commission
Commissioner for Industry & Entrepreneurship

This study outlines the importance to the EU economy and society of innovative industries which act as platform technologies for wider, global value chains. The fragrance industry through their impact on productivity growth and on Europe's global competitiveness, provide an important basis for creating jobs and wealth now and in the future. Ensuring that the right framework exists to ensure this industry and others like it remain competitive is a priority.



Pierre Sivic,
IFRA President

The results of this in-depth study into our industry and its socio-economic impacts have given us a much deeper sense of our responsibility as an industry. It clearly shows that we have a duty of care to our employees, value chain partners, the communities we all live in and ultimately the consumers who enjoy the fruits of our creativity across a wide range of consumer products day in and day out.

This study clearly illustrates the complexity and interdependency of our industry sector and shows that innovation and creation are delicate, especially in tough economic circumstances. They need nurturing and investment. We can see from this report the real value and impact of what we do and it can only reinforce our sense of commitment to continued investment and dedication to this precious industry.

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OVERVIEW

Fragrances create important benefits that are ubiquitous, tangible, and valued. They solve important functional problems and they satisfy valued emotional needs.

1 - Fragrance Technologies

In Europe¹, fragrances are perceived as an essential part of life. Fragrances are the product of a deep partnership between the Fragrance industry and owners of consumer brands. Every fragrance is a unique combination of science and artistry. Through their complex properties, they form “platform technologies”, facilitating innovation by brand owners throughout the Consumer Goods sector. In Fine Fragrance, Personal Care and Household Care markets, most products rely upon fragrances to deliver valued emotional or functional benefits, to communicate product performance, to differentiate brands, or to create added value.

Fragrances create important benefits that are ubiquitous, tangible, and valued. They solve important functional problems and they satisfy valued emotional needs. On a functional level, the complex properties of fragrances allow individuals to control or remove malodour: the bad smells that afflict the everyday lives of millions. Control of these smells, using fragrances embedded in household and personal care products, improves the physical quality of people’s lives. As well as combating malodour, fragrances communicate complex ideas – creating mood, signalling cleanliness, freshness, or softness, alleviating stress, creating well-being, and triggering allure and attraction.

Fragrances are “platform technologies”: they create benefits for manufacturers of consumer products and luxury goods because their properties meet the highly-valued functional and emotional needs of end-consumers. Through an extended process of initial purchase and subsequent re-purchase, this creates added value for brand owners through the creation of new product categories, new products, greater differentiation between one brand and another, higher sales volumes, greater margins, more loyal customers, and improved brand equity.

¹Throughout this report, the terms ‘Europe’ or ‘Europeans’ refers to EU-27 plus Switzerland and Norway.

2 - The Fragrance Value Chain

In modern economies, wealth and employment, along with other public benefits, are often created because ideas and technologies are embedded in other more complex products and services, adding value through progressive stages of the production process. This often culminates in the final purchase of a product or service (which contains the embedded ideas or technologies) by consumers who satisfy multiple complex functional and emotional needs. This process of up-grading generates successive increases in value added and employment, and is described as a “value chain”.

The creation, supply, and consumption of fragrance technologies generate wealth, jobs, and other public benefits in Europe through three distinct and sequential phases of economic activity:

- **“The Fragrance Industry”** – this is made up of the global specialist fragrance companies, mid-sized specialist fragrance companies, and specialist suppliers of ingredients. This stage of the value chain makes major investments in science, creativity, and market knowledge, and then exploits these assets to create and supply proprietary fragrance blends, based on a wide range of ingredients, to manufacturers of fine fragrances, beauty, personal care and household care products for consumer and business-to-business markets.
- **“Manufacturers”** – companies in a range of consumer and luxury goods sectors use investments in creativity, science, and market knowledge by the Fragrance industry to create new sectors, build brands, and differentiate themselves in competitive markets. Economic benefits created here are of a significant scale, and of considerable importance in Europe. Direct economic benefits are created through production, sales, marketing, product development, R&D, administration, and logistics activities.
- **“Retailers”** – In the final stage of the Fragrance value chain, end consumers purchase the consumer products and luxury goods that contain fragrance technologies. They do this through expenditure in a wide range of retail outlets. Spending by consumers in these stores creates jobs and wealth. In Europe, the main types of store and non-store retail outlets distributing

products that contain fragrances are: Grocery Retailers, Supermarkets, Department Stores, Pharmacies, Parapharmacies, and Drug Stores, Beauty and Well-Being Specialists, Beauty Salons, and, Direct Selling.

Economic activity of this type also sustains jobs and wealth indirectly through the operation of “multipliers”. Purchases of goods and services by retailers and manufacturers throughout the value chain, to support the sale and production of goods that make use of fragrance technologies, creates additional jobs and wealth in suppliers, many of which are located in Europe. This process is often described as an “indirect multiplier” mechanism.

Further indirect impacts are likely to occur through the operation of “induced multipliers”. Household spending by people whose jobs are dependent on the sale or manufacture of products that make use of fragrance technologies, either directly or indirectly through the supply chain, is also affected by the scale of activity of the fragrance value chain. Such expenditures create additional economic benefits.

3 - The Fragrance Industry

Fragrance companies meet the needs of their direct customers (manufacturers of consumer products and luxury goods) by creating and supplying proprietary blended fragrances. Each blend is unique and is only sold to one brand owner for use with a specified brand in a single application. Each blend may contain up to 250 different ingredients, a mixture of essential oils, natural aromatic molecules, and complex synthetic aroma chemicals.

A “palette” of more than 3,000 ingredients is used by the fragrance industry to create, produce, and supply the 60-80,000 unique proprietary blends sold world-wide each year. Blends are created through the exploitation of long-term investments by fragrance companies in science, creativity, input materials, and market knowledge.

To develop large-numbers of new, unique fragrance experiences, **fragrance companies make very large scale investments, equal to approximately 16-18% of annual turnover, in product innovation.**

This encompasses all forms of expenditure, short and long-term, associated with the creation of new or improved products.

Europe has the largest concentration of Fragrance activities in the world. The Fragrance industry has made major investments in Europe in production, innovation, creativity, and strategic management. Production assets, innovation facilities, and creative centres are concentrated in France, Germany, Switzerland and the Netherlands. Whilst a

substantial proportion of these investments support production and innovation activities needed to meet the needs of European customers, additional investments in strategic management, innovation and creativity have been made in Europe by major fragrance companies to support global activities.

In 2010, overall sales of unique fragrance blends by the fragrance industry in Europe were estimated to be EUR 1.7 billion.

4 - Economic Impact of the Fragrance Value Chain

4.1 - Valuation Concept

For all developed world markets and for many markets in developing countries, the largest contribution to jobs and wealth made by fragrance technologies occurs in the economic activity they support within the Manufacturing and Retail stages of the fragrance value chain, and, through the operation of indirect multipliers, in their suppliers. But this process begins with investments in science, creativity and market knowledge by the Fragrance industry itself.

Fragrances are, however, not sold directly to end consumers. Rather they are purchased by manufacturers of consumer products and luxury goods, embedded into articles (such as perfumes, shower gels and laundry detergents) and then sold to private individuals. Articles are normally sold through retail outlets, although some, such as hair care products, may be purchased by individuals as part of a wider service provided by hair salons. For manufacturers of luxury goods and fast-moving consumer goods, fragrances are one of a number of enabling technologies used to meet the needs of end consumers.

It is important therefore to find an appropriate method to "value" the distinctive contribution of fragrance technologies recognising that other factors, such as brands, image, or functional performance may also influence initial purchase and subsequent re-purchase of products. In this study, two approaches have been used called the "narrow" and "wide" value chain respectively.

4.2 - The Narrow Value Chain

The "narrow value chain" highlights the distinctive economic contribution of fragrance technologies. It identifies "fragrance dependent" output, jobs, Gross Value Added, labour costs and labour taxes within the three stages of the value chain: innovation and production by the Fragrance industry; manufacture of products by the Fine Fragrance and Beauty, Personal Care, and Household Care industries (for end consumers and business-to-business customers); and the sale of products that make use of fragrances through a wide range of store and non-store retail outlets.

After examining all major product applications and applying an appropriate valuation, it is estimated that the distinctive role of fragrance technologies is equal to 45% of the retail sales value of consumer products that make use of fragrances and 35% of the manufacturers output for products sold to industrial and institutional customers. Specifically, this delivers the following economic benefits for Europeans:

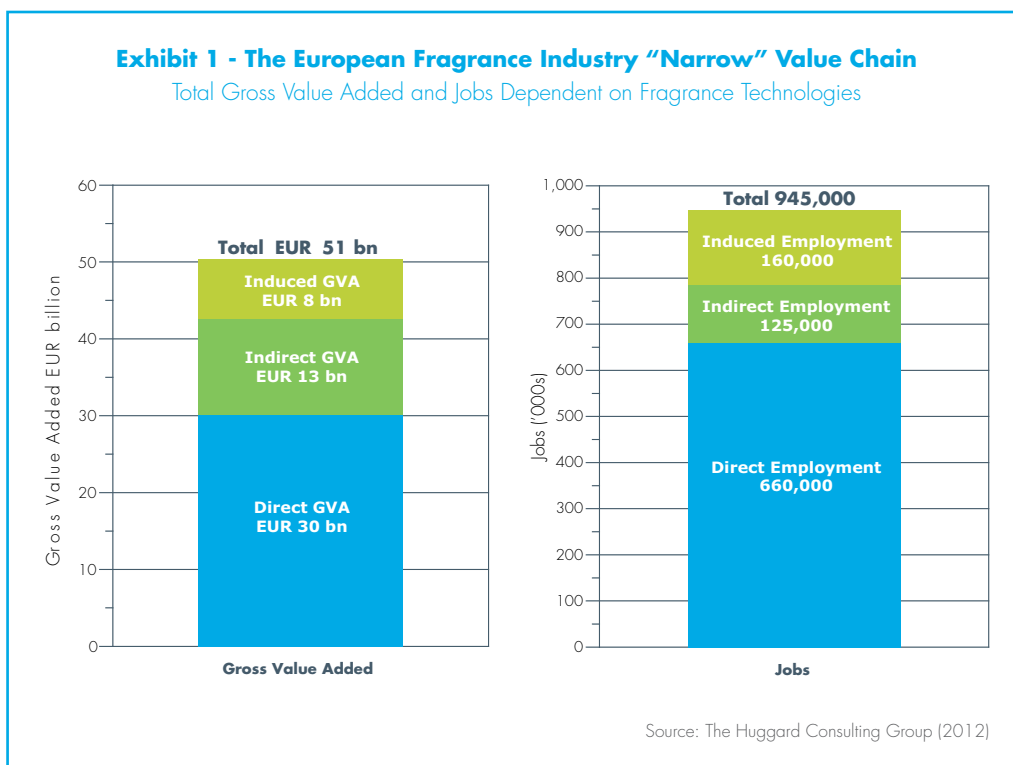
- Fragrance innovation, where it creates strong, valued benefits for end consumers, increases the value of sales to consumers or business-to-business customers. In turn, this underpins part of the value of manufacturing output. **In 2010, EUR 34 billion of manufacturing output depended on the distinctive part played by fragrances in fine fragrance and beauty, personal care, household care, and I&I products.**

- Part of the expenditure by end consumers on fine fragrances, beauty products, personal care products, household care products and services sold by beauty salons, depends on the distinctive contribution of fragrance technologies. **In 2010, it is estimated that, for these goods and services, more than EUR 57 billion of retail sales depended on the distinctive part played by fragrance technologies².**
- On a conservative basis, **over 940,000 jobs and an additional 330,000 small, informal businesses are sustained by the economic output at all stages of the value chain that depends on the distinctive contribution of fragrance technologies.** This is the scale of “fragrance dependent” employment, and reflects direct, indirect and induced impacts. Over 660,000 of these are *direct* jobs in the fragrance industry, manufacturers, and retailers. A further 120,000 jobs are sustained *indirectly* in supplier industries through the purchases of raw materials, goods, and services to support fragrance-dependent

output within the value chain. *Induced* impacts, based on a conservative and indicative multiplier, add a further 160,000 jobs elsewhere in the European economy, reflecting additional consumption spending by households where jobs are supported directly or indirectly by “fragrance dependent” output.

- Fragrance technologies also make a substantial contribution to Europe’s wealth. After taking account of direct, indirect, and induced impacts, **it is estimated that “fragrance dependent” output throughout the fragrance value chain in Europe supported GVA of over EUR 51 billion.** *Direct* economic impacts within the value chain account for EUR 30 billion. The remainder are the result of *indirect* multiplier impacts through purchases from European-based suppliers (EUR 13 billion), and *induced* multipliers due to additional consumption spending (EUR 8 billion).

These economic impacts are illustrated below (Exhibit 1).



²Retail sales are measured excluding all sales taxes.

4.3 - The Wide Value Chain

The wide value chain highlights the scale of economic activity in Europe that involves products that use fragrance technologies. It provides an insight into the scale and nature of the “economic footprint” of a technology. For this group of products in the Fine Fragrance and Beauty, Personal Care, and Household Care industries, the wide value chain encompasses output at each stage of activity including innovation and production of fragrances, manufacture of articles, and sale to end consumer and business-to-business customers, with associated impacts on GVA, jobs, employment costs, and taxes (labour and added value). These impacts are estimated to be:

- After taking account of direct, indirect and induced impacts, **the manufacture and sale of products in Europe that make use of fragrance technologies supports nearly 2.1 million jobs and**

an additional 860,000 small, informal businesses. This is the employment impact on Europe of the wide fragrances value chain. It is made up of 1,500,000 direct jobs, 270,000 jobs in suppliers, and a further 350,000 jobs in other parts of the European economy due to consumption spending impacts.

- Output generated at each stage of the fragrances value chain also creates wealth. On a conservative basis, **the wide fragrances value chain sustains nearly EUR 114 billion of GVA after including the impact of indirect and induced multipliers.** The largest part comes from direct impacts (EUR 67 billion) but purchases from suppliers sustains a further EUR 28 billion and consumption spending impacts, estimated using a conservative induced multiplier, supports an additional EUR 19 billion of GVA.

5 - Other Public Benefits

5.1 - Innovation and Productivity

In most mature economies, economic growth occurs not because of increases in quantities of people or capital utilised but as a result of the successful application of ideas. New or improved products, services, and business methods enhance the efficiency with which capital and labour are used, driving up productivity. Indeed, in modern economies, productivity growth makes the greatest contribution to improvements in living conditions and to delivering more and better jobs. Productivity grows because companies innovate, leading to greater efficiency or higher added value or both. Economic gains are, moreover, maximised when the productive performance of large-scale sectors increases.

Innovation drives the fragrance value chain. Investments in intangible assets by fragrance companies, utilised in partnership with brand owners, provide one of the principal means for achieving continuous innovation in markets with more than EUR 140 billion of annual consumer spending³. Fragrance technologies enable productivity growth in the value chains supporting these markets by facilitating different types of innovation. This includes creating new consumer markets for products or services; refreshing existing, mature consumer markets; and, facilitating the development of new store and non-store retail formats.

5.2 - Global Competitiveness, Innovation and Fragrance Technologies

In industries that use fragrance technologies, Europe is a global leader. Fragrance technologies play a critical role in this. They are an “engine of innovation”, supporting brand owners in Europe and elsewhere, and providing brand owners with a continuous stream of new ways of meeting additional customer needs, of creating new markets, and of increasing consumer value. For many long-standing consumer brands, moreover, fragrances developed and sustained in the highly competitive and demanding European market provide the competitive edge and unique sources of value. These drive market success, enabling brand owners to compete effectively with local or domestic brands outside Europe. Lying behind this are major investments in intangible assets, including creativity, science, and product development capabilities, which have been made by the global fragrance industry in Europe, providing brand owners with access to world-class innovation expertise.

Leadership in the world’s fine fragrance, beauty, personal care and homecare markets creates significant benefits for Europeans through a range of different mechanisms: exports of finished

³Expenditure by ordinary households includes gross output VAT charged on retail goods and services

goods to non-European markets; management and development of global brands; growth and development of a globally competitive marketing and services sector; and, inward investment in strategic activities by non-European multi-nationals.

Taken together, these impacts generate significant numbers of well-paid, high-skilled jobs for Europeans in business management, finance, marketing, production, and R&D, as well as in supporting creative industries. Investments by brand owners

in strategic assets also support Europe's "science base", as well as underpinning manufacturing activities in many of Europe's lagging regions.

In order to place the European fragrance industry value chain and the associated socio-economic impacts in context, an overview of the global impacts are contained in Section 7 of this report (The Socio-Economic Contribution of Fragrances – A Global Perspective).

In industries that use fragrance technologies, Europe is a global leader. Fragrance technologies play a critical role in this. They are an "engine of innovation", supporting brand owners in Europe and elsewhere...

6 - Conclusions

Fragrance technologies create substantial social and economic benefits for Europeans. They improve quality of life, and sustain significant economic benefits today. Moreover, through their impact on productivity growth and on Europe's global competitiveness, they provide an important basis for creating jobs and wealth in the future.

European policy-makers recognise that, at a time of constraints on public spending, major demographic change, and increasing globalisation, the creation of new jobs and the future of living standards depends upon creating the "framework conditions" within which innovation flourishes⁴.

Until now, however, the role that fragrance technologies play in creating benefits for Europe and its citizens has not been fully recognised by policy-makers. In particular, the role that fragrances play as a platform technology, triggering innovation and economic gains in downstream user sectors, has been overlooked by decision-makers and opinion-formers.

For the future, the challenge facing policy-makers is to sustain a business environment that encourages further investment in innovation in fragrance

technologies and in their use and dissemination by brand owners and retailers. Only by doing this will Europeans continue to be able to enjoy the emotional, functional, and economic benefits that fragrances deliver.

**The Huggard Consulting Group
September 2012**

⁴See for example CEC 'Europe 2020 Flagship Initiative – Innovation Union' (Communication from the European Commission, SEC (2010) 1161)

1 - INTRODUCTION

Yet the enjoyment of fragrances by Europeans goes beyond the satisfaction of functional needs. Through their appeal to our fifth sense and its complex links in our minds, memories, and psychologies, fragrances help meet an extensive range of emotional needs for countless people.

In Europe⁵, fragrances are perceived as an essential part of life. They are the product of a deep partnership between the Fragrance industry and owners of consumer brands. Every fragrance is a unique combination of science and artistry. Through their complex properties, they form “platform technologies”, facilitating innovation by brand owners throughout the Consumer Goods sector. In Fine Fragrance, Personal Care and Household Care markets, most products rely upon fragrances to deliver valued emotional or functional benefits, to communicate product performance, to differentiate brands, or to create added value.

Development of new fragrances begins with major investments by Fragrance companies in science, knowledge and creativity. These investments are then used to create unique proprietary ideas to meet the defined requirements of consumer goods businesses. In turn, brand owners combine the insights and creativity of these new fragrance ideas with their understanding of product performance, the values of their brands, and their deep insights into consumer needs, wants, and behaviours, triggering waves of innovation across major consumer goods markets.

For ordinary Europeans, fragrances solve important functional problems and they satisfy valued emotional needs. On a functional level, the complex properties of fragrances allow individuals to control or remove malodour. Control of these smells, using fragrances embedded in household and personal care products, improves the physical quality of people’s lives.

Yet the enjoyment of fragrances by Europeans goes beyond the satisfaction of functional needs. Through their appeal to our fifth sense and its complex links in our minds, memories, and psychologies, fragrances help meet an extensive range of emotional needs for countless people. Fragrances play a valued emotional role in the household as well. They create a sense of place and of belonging, defining our homes to ourselves and others. They demonstrate to families, friends, and peers that we care about home, hygiene, and family, building self-respect and pride. And fragrances help us with our feelings and sense of well-being. They create different moods, triggering emotional relief or stimulating new ideas, sensations and pleasures.

⁵Throughout this report, the terms ‘Europe’ or ‘Europeans’ refers to EU-27 plus Switzerland and Norway.

Satisfaction of these needs generates enormous economic benefits for Europeans. Sales to Europeans, through retail outlets and non-store channels, of consumer products that make use of fragrance technologies sustain jobs and contribute to economic wealth. Most of these products are manufactured in Europe by brand owners in the Fine Fragrance, Personal Care and Household Care sector. Indeed, Europe is the world's largest net exporter of consumer products that rely upon fragrance technologies, dominating global sales of products such as cosmetics, toiletries, and fine fragrances. This process of manufacturing supports employment throughout Europe and produces additional wealth. Jobs and wealth are also produced by the economic activities of the Fragrance industry, creating new fragrances to help consumer goods companies meet the needs of Europeans ever more successfully.

Economic activity of this type also sustains jobs and wealth indirectly through the operation of "multipliers". Purchases of goods and services by retailers and manufacturers from European-based businesses, to support the sale and production of goods that make use of fragrance technologies, creates additional jobs and wealth in suppliers. This process is often described as an "indirect multiplier" mechanism.

Further indirect impacts are likely to occur through the operation of "induced multipliers". Household spending by people whose jobs are dependent on the sale or manufacture of products that make use of fragrance technologies, either directly or indirectly

through the supply chain, is also affected by the scale of activity of the fragrance value chain. Such expenditures create additional economic benefits.

The scale and nature of the economic impact in Europe of fragrance technologies is, however, little understood. This study rectifies that. It provides a quantification and explanation of the scale and nature of the contribution of fragrance technologies to employment and wealth in Europe. It also highlights additional public benefits created by fragrance technologies for Europeans, most notably their importance for the future global competitiveness of Europe and for economic growth in important parts of the private sector.

Our methodology is described in the initial part of the report (Section 2). In the next part of the report, the uses of fragrances are set out in more detail, and a comprehensive description of the "fragrances value chain" is included (Section 3). After that a detailed description of the Fragrance industry is included, along with an explanation of its investments in innovation (Section 4). The next section provides a detailed quantification of the contribution of the fragrances value chain to jobs and wealth in Europe (Section 5). Further public benefits are set out in the next part of the report (Section 6). An overview of the global impacts of the fragrance industry value chain (Section 7) is provided to set the European study in context. The final part of the report lays out some conclusions, drawing together the main ideas that emerge from the research.

2 - METHODOLOGY

Our study provides quantitative estimates of the impact of the fragrances value chain on employment, gross value added (GVA – a measure of contribution to national output), labour income, labour taxes, and taxes on value added in Europe. Using a conservative approach, estimates are based on the direct value chain activities (fragrance innovation and production, the manufacture and sale of consumer goods that make use of fragrances, the manufacture of products that use fragrances for institutional and industrial customers, manufacture of products for export markets, store and non-store retailing of consumer goods that make use of fragrances, and the supply of services to end-consumers that depend on fragrance-based products), along with relevant indirect and induced multipliers.

A multi-stage approach was used:

- In the first stage, the main end use applications that make use of fragrances were identified using a process of expert in-depth interviews with managers in the Fragrance industry. These applications are found predominantly in three consumer sectors: Fine Fragrances and Beauty, Personal Care, and Household Care. Similar types of products are also produced for business-to-business markets in the Industrial and Institutional (I&I) sector.
- The next stage focused on drawing up expert estimates of the final “output” values for each of the principal product categories that make use of fragrance technologies. For consumer markets, values were based on retail selling prices (excluding VAT and similar taxes). In business-to-business markets, manufacturers selling prices were used. Published market research studies (including studies by Euromonitor International, Kline and Freedonia), European Commission data (including Eurostat “Structural Business Statistics” database), data from Cosmetics Europe, AISE, and the European Candles Association (the EU-level trade associations for the personal care, home care, and candle manufacturing industries respectively) and expert interviews informed the development of the estimates.
- After identifying the scale of the final output value for products that use fragrances, the next stage focused on estimating manufacturing output values for the same group of products. This was achieved using Eurostat data, UN COMTRADE Import-Export data, published market research studies, and the company accounts of 15 major manufacturers.
- The next stage of research focused on developing estimates of **direct** economic impacts in the **retail** part of the fragrances value chain. Using published market research, estimates were made of the scale of sales of products that make use of fragrances through each major type of store and non-store retail format in Europe. Sales of services that are linked to products that make use of fragrances were also identified, using data from national accounts, Coiffure EU (the EU-level trade association for hair salons), and Seldia (the EU-level trade association for direct selling businesses). This analysis provided an estimate of the scale of the relevant sales value for each major retail format. The **direct** economic impacts of these sales were then estimated by drawing up an analysis of the cost structures for each retail format. Analyses identified retail gross margin,

bought-in goods and services (not for resale), in-house labour costs, and operating surplus (prior to taxes and payments to providers of capital). Cost and margin structures were based on EU-level data from Eurostat combined with data from Verdict, Mintel, Euromonitor, Coiffure EU, Seldia, Cosmetics Europe, AISE, national statistical offices, and from an analysis of the accounts of more than 20 major European retailers.

- A similar analysis was undertaken of the **manufacturing stage** of the fragrance value chain. This used Eurostat data (such as sector specific data for appropriate NACE codes), company annual accounts information, and a proprietary database of cost structures, to develop estimates of bought-in-goods and services, in-house labour, and operating surpluses for the principal manufacturing sectors. Estimates of **direct** economic impacts were based on a “whole company approach”, ensuring that in-house sales, marketing, administration, R&D, distribution, and other head office activities were included within the scope of the manufacturing stage of the fragrances value chain.
- For the initial part of the fragrance value chain, expert interviews with 38 senior managers and industry specialists, published studies by Freedonia, and analyses of company accounts were used to develop estimates of the output and cost structure of **the fragrance industry**. These estimates allowed **direct** economic impacts to be identified.
- The next stage of research involved the identification and quantification of the **indirect impacts of the sale and manufacture of products that use fragrances**. For each stage of the

fragrance value chain, an analysis was drawn up of the principal categories of bought-in goods and services. The value of these purchases, adjusted for estimated levels of import penetration, was then used to estimate indirect economic impacts. Relevant industry-level data from Eurostat informed these analyses. This was achieved using Eurostat data, UN COMTRADE Import-Export data, published market research studies, and the company accounts of 15 major manufacturers.

- After estimating direct and indirect economic impacts, the likely scale of associated taxes on labour income and on value added was identified using data from the OECD Tax Database 2010.
- For the initial part of the fragrance value chain, expert interviews with 38 senior managers and industry specialists, published studies by Freedonia, and analyses of company accounts were used to develop estimates of the output and cost structure of the **fragrance industry**. This has been done on an indicative and conservative basis. It takes into account experience from other studies undertaken by the project team, expert academic advice, and evidence from other, similar studies.

Using this overall methodology, estimates of economic impacts were identified that reflected the entire sales value of all of the major product categories that make use of fragrances in Europe. It provided a baseline for our final estimates of the two different types of value chain: a “narrow” value chain, valuing the distinctive benefits that fragrance technologies create for end users; and a wide value chain, valuing the current scale of economic activity that makes use of fragrances. (These concepts are explained in more detail in Section 5.)

3 - FRAGRANCE TECHNOLOGIES AND THE FRAGRANCE VALUE CHAIN

3.1 - Fragrance Technologies

Fragrances are platform technologies. They provide brand owners and retailers with a basis for further innovation. Embedded in articles or retail formats, they are combined with other technologies and intangible assets to create new or improved ways of meeting customer needs.

Examples of innovation by brand owners triggered by new fragrance ideas include new product categories (such as scented candles or body-sprays for young men); expanded emotional benefits of existing products (such as shower gels or fabric conditioners); confirmation of complex functional innovations (as is the case with the most leading brands of laundry detergent); differentiation of existing products, raising competitive intensity and value added in mature markets (such as the use of fragrance to deliver brand extensions from soap product categories into the shampoo market); and, through its role in masking the unpleasant smell of many ingredients used in household and personal care products, expanding the appeal of products in applications such as hair care.

For manufacturers of luxury goods and fast-moving consumer goods, fragrance ideas help brand owners to:

- Build the scale and value of product categories such as cosmetics, skin creams, and polishes by removing obstacles to consumption by masking the unpleasant smell produced by many ingredients used in Household and Personal Care products;

- Deliver core functional benefits, principally the control of malodours, creating distinctive product categories, such as air fresheners and scented candles;
- Create major markets by delivering the primary emotional benefits. Without fragrance technology there would be no market for perfumes and fine fragrances, substantially reducing the size of the luxury goods industry;
- Articulate the complex functional benefits of major consumer product markets, such as laundry detergents and surface cleaners. This increases consumer satisfaction, driving greater overall purchase, increasing added value, and creating the opportunity for premium segments to be developed;
- Satisfy additional emotional needs that emerge after the satisfaction of functional needs. In markets such as fabric softeners and shower gels, fragrance technologies deliver distinct emotional benefits, as well as articulating to consumers that the functional performance of the product has been achieved. This enables brand owners to meet wider consumer needs, providing opportunities to increase value added through differentiation, segmentation, and premium offerings.

In overall terms, fragrance technologies help manufacturers of consumer and luxury goods, as well as retailers, to build strong brands ("brand equity"), by creating product categories, meeting

consumer needs, stimulating innovation, and delivering added value for end consumers.

Retailers have also used fragrance ideas to innovate. New retail formats have been created most notably differentiated, specialist perfumeries throughout Europe, as well as the direct selling of fine fragrances and beauty products, most notably in Eastern Europe. Existing store formats have used fragrance innovations as well. Hair salons, for instance, increasingly offer own brand or specialist brand hair care products adding value to the consumer experience or authenticating their service offer and creating consumer confidence.

New fragrance ideas are created through a unique process of partnership involving complementary sets of intangible assets. Owners of consumer goods, luxury, and retail brands work closely with specialist fragrance companies, combining the deep market knowledge, brand reputation, and functional performance expertise of the brand owner with the creative and scientific capacity of the fragrance specialist.

Within this context and in response to specific requests from brand owners, fragrance companies compete to develop complex mixtures of natural and synthetic materials designed to produce a fragrance experience that is unique to a particular application of a single brand in a specific geographic market. A brand owner then selects one of the fragrances offered by the competing fragrance businesses. This fragrance, in the form of a blend of materials,

is then purchased from the successful fragrance company on a regular basis and embedded into the final consumer or luxury goods product. In turn, this fragrance enables a brand owner to make a unique offer to end consumers, creating a period of relative competitive advantage in a market and generating superior added value.

Fragrance companies invest in the development of long-term assets and in funding project-specific activity in advance of receiving payment from brand owners. The costs of investments and product development can only be recovered through regular purchases of the blend of materials, *if* the fragrance wins the competition to be used in the new product and *if* this product is then successful in the market. To ensure that the fragrance company benefits fully from this, and hence is able to recover the costs of investment in innovation, the unique fragrance is protected by intellectual property which is, in turn, owned by the fragrance company. Only this fragrance may then be used in the final article.

3.2 - Uses of Fragrance Technologies

Fragrance technologies are widely used in three principal user sectors: Fine Fragrances and Beauty; Personal Care; and Household Care. Specific products include:

- *Fine Fragrance and Beauty* – in this market sector, product categories that depend on fragrances include all types of perfumes (prestige, mid-market and, economy products), skin care, colour cosmetics, and beauty gift sets. In 2010, the total

European consumers are the largest group of buyers of products that depend on fragrances. In 2010, their overall expenditure on these products (measured at retail selling prices, excluding taxes) was over EUR 85 billion.

value of retail sales of these product categories in Europe was more than EUR 35 billion (excluding VAT and equivalent taxes);

- **Personal Care** – a wide range of personal care product categories make use of fragrances, including hair care (shampoos, conditioners, colorants, hair control), personal hygiene (shower gels, body washes, toilet soaps, deodorants, antiperspirants, body-sprays), male toiletries, feminine care, and baby care. Overall retail sales value of these products in 2010 in Europe was almost EUR 28 billion (excluding taxes);
- **Household Care** – many product categories in this sector make use of fragrances. They include textile washing (laundry detergents, fabric care conditioners, stain removers), dishwashing (automatic dishwashing, hand-washing, rinse aids), surface cleaners (for kitchens, baths, windows, floors, and carpets), air fresheners, scented candles, and polishes and waxes. Taken together, these product categories generated retail sales of nearly EUR 24 billion (excluding taxes) in Europe in 2010.

European consumers are the largest group of buyers of products that depend on fragrances. In 2010, their overall expenditure on these products (measured at retail selling prices, excluding taxes) was over EUR 85 billion. Almost every European household buys some or all of these products on at least a monthly basis, purchasing the functional and emotional benefits delivered by fragrance technologies.

Alongside this, products that make use of fragrances are sold to business-to-business customers in the industrial and institutional sectors (including schools, hospitals, offices, hotels, and restaurants). Most

of these are similar to consumer products in the household care and personal care sectors. Key applications include surface cleaning, malodour control, textile care, and dishwashing. Overall European sales of these products are estimated to have been approximately EUR 6-7 billion in 2010.

3.3 - Value Chains and Economic Impacts

In modern economies, wealth and employment, along with other public benefits, are often created because ideas and technologies are embedded in other more complex products and services, adding value through progressive stages of the production process. This often culminates in the final purchase of a product or service (which contains the embedded ideas or technologies) by consumers who satisfy multiple complex functional and emotional needs. This process of up-grading generates successive increases in value added and employment, and is described as a "value chain".

Fragrances are "platform technologies": they create benefits for manufacturers of consumer products and luxury goods because their properties meet the highly-valued functional and emotional needs of end-consumers. Through an extended process of initial purchase and subsequent re-purchase, this creates added value for brand owners through the creation of new product categories, new products, greater differentiation between one brand and another, higher sales volumes, greater margins, more loyal customers, and improved brand equity.

For fragrance technologies, this process begins with major investments by the Fragrance Industry in science, creativity, and market knowledge. These investments are then used to create unique proprietary blends to meet the defined requirements of brand owners. In turn, these are embedded, alongside other technologies, in a wide range of consumer

products. To promote these products to retailers and end consumers, brand owners invest in marketing, including advertising and sales promotion. This builds “image”: the emotional identity of a brand. In the final phase of economic activity, brands are distributed to end consumers through a wide range of different types of retail outlet.

Indeed, fragrance technologies trigger waves of economic activity at different stages of the production and consumption process.

3.4 - The Fragrance Value Chain in Europe

The creation, supply, and consumption of fragrance technologies generate wealth, jobs, and other public benefits in Europe through three distinct and sequential phases of economic activity:

- **“The Fragrance Industry”** – this is made up of the global specialist fragrance companies, mid-sized specialist fragrance companies, and specialist suppliers of ingredients. This stage of the value chain makes major investments in science, creativity, and market knowledge, and then exploits these assets to create and supply proprietary fragrance blends, based on a wide range of ingredients, to manufacturers of fine fragrances, beauty, personal care and household care products for consumer and business-to-business markets. This part of the value chain is dominated by a small number of global specialist companies, most notably Givaudan (Geneva, Switzerland), Firmenich (Geneva, Switzerland), IFF (Hilversum, Netherlands), Symrise (Holzminden, Germany), Takasago (Paris, France), Mane Fils (Grasse, France), and Robertet (Grasse, France). There are also a number of smaller specialist companies in Europe, such as Belmay (Northampton, UK), CPL Aromas (Bishops Cleeve, UK), Luzi Technologies

(Zurich, Switzerland), and GPC Parfum (Milan, Italy). Economic activity is concentrated in France, Germany, the Netherlands, and Switzerland. In these countries, companies have made major investments in management, innovation and production assets. Whilst many of these investments support activity in the European market, other investments underpin markets around the world. Indeed, Europe, along with the USA, is the one of world’s two leading centres for fragrance innovation. Alongside this, Europe also hosts the global head office and strategic management activities for Givaudan, Firmenich, Symrise, Mane Fils, and Robertet: five of the world’s largest fragrance companies.

A further characteristic of this part of the value chain is the presence of European-based suppliers that provide fragrance companies with specialist raw materials. Examples include BASF (Ludwigshafen, Germany), Kao (Barcelona, Spain), Sensient Technologies (Granada, Spain), and Treatt (Bury St Edmunds, UK).

- **“Manufacturers”** – companies in a range of consumer and luxury goods sectors use investments in creativity, science, and market knowledge by the Fragrance industry to create new sectors, build brands, and differentiate themselves in competitive markets. Economic benefits created here are of a significant scale, and of considerable importance in Europe. Direct economic benefits are created through production, sales, marketing, product development, R&D, administration, and logistics activities. Another distinctive feature of this stage of the Fragrance value chain are the clusters of specialist support industries sustained by brand owners because of their investments in branding and

European markets for consumer products that make use of fragrances are dominated by 8-10 global multinationals (many based in Europe but others with global operations controlled from the USA or Japan) and retail brands.

communication, in part to exploit the creative ideas developed by the Fragrance industry. These support industries include advertising, market research, sales promotion, media, and packaging, with major clusters in London (UK), Paris (France), and Milan (Italy). It is estimated, for example, that brand owners spend annually EUR 8-10 billion to advertise products that make use of fragrances. A significant proportion is spent on print advertising (predominantly magazines) with the remainder funding TV adverts. Indeed, expenditure on print advertising by owners of brands that make extensive use of fragrances has helped to develop European expertise in fashion and beauty magazines, many of which have become globally successful titles.

European markets for consumer products that make use of fragrances are dominated by 8-10 global multinationals (many based in Europe but others with global operations controlled from the USA or Japan) and retail brands. Private label brands are of particular importance in the UK, Germany, France, Sweden, and Spain. Major European manufacturers of products that make use of fragrances for consumer markets include⁶:

- *Fine Fragrance and Beauty* – L’Oreal (France), Chanel (France), LVMH (France), Ferragamo (Italy), Euroitalia (Italy), Procter & Gamble Europe (UK, Germany, Belgium), Coty (Switzerland), Puig (Spain), Clarins (France), Shiseido Europe (France), Intercos (Italy), Oriflame (Sweden);
- *Personal Care* – Henkel (Germany), Beiersdorf (Germany), Unilever (UK, Netherlands), L’Oreal (France), Johnson & Johnson Europe (UK), Colgate-Palmolive Europe (France, Netherlands), Alliance Boots (UK), McBride (UK);

- *Household Care* – Procter & Gamble Europe (UK, Germany, Belgium), Henkel (Germany), Reckitt Benckiser (UK, Netherlands), Unilever (UK, Netherlands), SC Johnson Europe (Netherlands, Switzerland, UK), Colgate-Palmolive Europe (France, Netherlands), Werner & Mertz (Germany), Luhs (Germany) and, McBride (UK).

The largest manufacturers of household and personal care products for business-to-business markets are Ecolab Europe (Switzerland), Johnson Diversey Europe (Netherlands), Procter & Gamble Professional Europe (Belgium), and McBride (UK). Other, smaller companies include Aseptix (Netherlands), France Industrie (France), Greyland (UK), Julius Holluschek (Austria), Kleen Purgatis International (Switzerland), and Spectro (Netherlands).

Economic activity undertaken by manufacturers of these products is widely distributed throughout Europe, and includes manufacturing sites, distribution centres, sales offices, call centres, service centres, marketing and innovation centres, R&D facilities, regional administration facilities, and head offices.

- **“Retailers”** – in the final stage of the Fragrance value chain, end consumers purchase the consumer products and luxury goods that contain fragrance technologies. They do this through expenditure in a wide range of retail outlets. Spending by consumers in these stores creates jobs and wealth. The main types of store and non-store retail outlets distributing products that contain fragrances are:
 - *Grocery Retailers* – these outlets are the most important sales channels for personal care and household care products in Europe. Major companies with outlets in more than one European country include Carrefour (France),

⁶Examples of major manufacturers include US-based companies that have major strategic and manufacturing activities in Europe.

Tesco (UK), Schwarz Group (Germany), Metro Group (Germany), Rewe Group (Germany), Auchan (France), Aldi (Germany), Edeka (Germany), E Leclerc (France), Intermarche (France), and Ahold (Netherlands). Alongside these multi-country retailers are small independent outlets and powerful national chains such as Coop Italia (Italy), Sonae (Portugal), Mercadona (Spain), Louis Delhaize (Belgium), Sainsburys (UK), and KF Gruppen (Sweden).

- *Department Stores* – in a number of European countries, most notably Belgium, Finland, Germany, Netherlands, Spain, Sweden Switzerland, and UK this is an important sales channel for fine fragrance and beauty products despite strong competition from specialist beauty and well-being stores. Leading store chains include: Bruening (Germany) El Corte Ingles (Spain), Stockmann (Finland), Marks & Spencer (UK), Galleries Lafayette (France), Ahlens (Sweden), Inno (Belgium), and La Rinascente (Italy).
- *Pharmacies, Parapharmacies and Drug Stores* – this is one of the most important formats, alongside grocery outlets, for personal care products. Major multi-country chains include Alliance Boots (UK), Rossmann (Germany), dm-Drogeriemart (Germany), and Muller (Germany). Important national multiple retailers in this sector include Acqua & Sapone (Italy), Parashop (France), Celesio (Italy), Apoteket (Sweden), Drogas (Latvia), Trekleister (Netherlands), and Superdrug (UK).
- *Beauty and Well-Being Specialists* – this is the most important sector for fine fragrance and beauty products that make use of fragrance products. Most stores focus on the specialist perfumery

sector, whilst a smaller number target the wider well-being and beauty market. Across Europe, the sector is characterised by large numbers of small independent retailers, along with important national chains and a small number of multi-country retailers. The largest multi-national businesses include Douglas (Germany), Sephora (France), Body Shop (UK), L'Occitane en Provence (France), Marionnaud (France), and ICI Paris XL (France). Large-scale national chains include Nocibe (France), Yves Rocher (France), La Gardenia (Italy), Limoni (Italy), Bottega Verde (Italy), The Perfume Shop (UK), Beauty Success (France), and Parfumeries Druni (Spain).

- *Beauty Salons* – this sector contains predominantly small local businesses, most notably hair salons. These sell hair care products directly to customers as well as using them in the provision of services.
- *Direct Selling* – this is a non-store format and it includes person-to-person shopping, as well as party planning. Whilst of limited importance in Western Europe, it is an important distribution channel for sales of fine fragrance, personal care and beauty products throughout most of Eastern Europe. Leading direct selling companies include Avon Europe, Amway Europe, Faberlic Europe, Oriflame (Sweden), and Yves Rocher (France).

Other, less important formats include mass merchandisers, electronic shopping and mail order.

These store and non-store retail formats are found in every country. As a result, sales of products that contain fragrances to Europeans create significant economic benefits throughout Europe.

4 - THE FRAGRANCE INDUSTRY

4.1 - The Global Fragrance Industry

Annual world-wide sales of the fragrance industry are estimated to be approximately EUR 7.5 billion. Of this, around two-thirds (EUR 4.9 billion) represents the revenues from sales of approximately 60-80,000 **proprietary fragrance blends** to downstream users. Proprietary blends are complete fragrances that are unique to individual brands and applications. The remaining output of the industry (EUR 2.6 billion) is accounted for by sales of **raw materials used in fragrance blends** (such as essential oils and aroma chemicals) by fragrance companies and by specialist suppliers of ingredients. Some of these revenues represent sales of raw materials to a small number of downstream users who continue to invest in in-house fragrance creation; others are the result of the trading of raw materials between fragrance companies to acquire speciality inputs.

On a geographic basis, nearly 75% of revenues from the supply of proprietary blends are obtained from sales in markets in the EU, USA, and Japan, with most of the remainder coming from developing markets.

Fragrance companies meet the needs of their direct customers (manufacturers of consumer products and luxury goods) by creating and supplying proprietary blended fragrances. Each blend is unique and is only sold to one brand owner for use with a specified brand in a single application. Each blend may contain up to 250 different ingredients, a mixture of essential oils, natural aromatic molecules, and complex synthetic aroma chemicals. A "palette" of more than 3,000 ingredients is used by the fragrance industry to create, produce, and supply the 60-80,000 unique proprietary blends sold each year.

Blends are created through the exploitation of long-term investments by fragrance companies in science, creativity, input materials, and market knowledge.

Three distinct types of company participate in the fragrance industry. Competition for customers takes place, in general, between similar types of company. Each type of company tends to focus on different "served" markets: combinations of customer groups, customer needs, and technologies or materials. Specifically:

- **Global Specialists** – this group is made up of 6-7 global businesses and accounts for 80-85% of sales of proprietary blends. In general, they form part of larger corporate entities that combine flavours and fragrances. They focus on creating and supplying fragrances to global manufacturers of consumer products and luxury goods, as well as large-scale national or regional brand owners. They invest heavily in technology, creativity, raw materials sourcing, and market knowledge, and have sufficient scale to provide global reach in product development, raw materials sourcing, manufacturing, product supply, and product safety. Their networks of manufacturing facilities, moreover, offer quality, consistency, speed, and competitive costs to global customers.
- **Mid-sized Specialists** – this group of companies, smaller in average size and more numerous than the global specialists, is responsible for about 15-20% of sales of proprietary blends. These companies focus on meeting the fragrance needs of regional or national brand owners, Institutional & Industrial (I&I) customers, as well

as the requirements of retailers who own store and private label brands. In some cases, they also focus on the use of particular ingredients in their blends, competing for niche opportunities with owners of global brands. This group has focused expertise in product development and manufacturing, combined with strong links with target customers

- **Raw Materials Specialists** – this final group supply specific types of raw materials to companies that create, blend, and supply fragrances. Some participants in this part of the industry have long-established expertise focusing on specific skills or knowledge, such as the sourcing or extraction of particular natural ingredients.

4.2 - The Fragrance Industry in Europe

Europe has the largest concentration of Fragrance activities in the world. The Fragrance industry has made major investments in Europe in production, innovation, creativity, and strategic management. Production assets are clustered in France, Germany, and Switzerland, with additional facilities in Belgium, Italy, Norway, Spain, Sweden, and UK. Major creative centres and innovation assets are concentrated in France, Germany, Switzerland, and the Netherlands. Smaller sites are located in Austria, Italy, and Poland.

Whilst a substantial proportion of these investments support production and innovation activities needed to meet the needs of European customers, additional investments in strategic management, innovation and creativity have been made in Europe by major fragrance companies to support global activities. All, for instance, have creative centres in Paris,

ensuring that they are in close proximity to the innovation centres for many of the world's leading fine fragrance and beauty businesses. Europe is, moreover, home to the global strategic management activities of most of the world's largest fragrance companies, most notably Firmenich and Givaudan in Switzerland, Symrise in Germany, and Robertet and Mane Fils in France.

For all of the world's major fragrance companies, Europe represents one of the most important markets in the world. Its scale, complexity, and demanding nature (sophisticated customers seek high levels of creativity and innovative new products) makes it an economically attractive market, as well as exposing fragrance companies to emerging new trends, new brands, and new segments.

Europe's strategic importance to the Fragrance industry encompasses, however, additional factors. It is "the home of the fragrance industry". Most major companies originated in Europe and still seek creative inspiration from local perfumers, scientists, and customers. Indeed, Europe continues to be the world's leading centre for perfumery education and for the scientific developments surrounding successful development of new fragrance ideas. These intangible assets, rooted in tradition, creativity, education, and science, make Europe one of the world's most attractive locations for investments in fragrance innovation and creativity.

At the same time, Europe is "the home" of some of the world's leading fine fragrance, beauty, personal care, and household care companies. These include L'Oreal, LVMH, Chanel, Clarins, Puig, Unilever, Reckitt Benckiser, Beiersdorf, and Henkel.

In 2010, overall sales of unique fragrances blends by the fragrance industry in Europe were estimated to be EUR 1.7 billion.

Indeed, the greatest concentration of premium fine fragrance brand owners is in Europe. Most of these companies, as well as their US-controlled competitors, have global product and fragrance innovation centres in Europe, providing opportunities for close linkages with fragrance companies and the opportunity to form global partnerships. The presence of these centres, as well as the continued importance of Paris as a global centre for fashion and beauty trends, makes Europe an attractive strategic location for the fragrance industry.

In 2010, overall sales of unique fragrances blends by the fragrance industry in Europe were estimated to be EUR 1.7 billion. The overall economic impacts of the activities of the fragrance industry are described in Section 5.2.1 below.

4.3 - Innovation and the Fragrance Industry

To develop large numbers of new, unique fragrance experiences, fragrance companies make very large scale investments, equal to approximately 16-18% of annual turnover, in product innovation⁷. This encompasses all forms of expenditure, short and long-term, associated with the creation of new or improved products. Measurement of this expenditure focuses on the overall innovation activity: for this industry the scale of activity is substantially greater than traditional measures of "research and development", as defined by GAAP and IFRS.

Product innovation by the Fragrance industry encompasses two types of expenditure:

- **Firstly, strategic investment, in four distinct types of intangible asset:**
- **Science** – significant resources are invested in long-term development of scientific knowledge, including the creation of new molecules (a process similar to that used in the pharmaceutical industry); the understanding of malodour and the development of technologies to control it; the undertaking of fundamental research into smells; and the improvement of delivery systems for fragrances, enabling them to survive and function well under different and increasingly demanding operating conditions. Other long-term research focuses, for example, on manufacturing processes, new smells, and the synthesis of materials. Many of these science investments are formally accounted for as R&D and are equal to 8-10% of revenues each year.
- **Creativity** – major expenditures are made every year in building up the knowledge and skills needed to research and develop unique fragrances, using an understanding of different natural and synthetic ingredients, an awareness of market trends and the needs of brand owners, creative flair, and artistry. This is predominantly an investment in human capital, supported by expert

⁷This level of investment in product innovation compares favourably with many other industries. Measured on the same basis, FMCG companies spend 6-8% of turnover on innovation; human pharmaceutical companies spend 15-18%; and veterinary medicine companies spend about 10%.

software and knowledge codification. At the heart of these investments is expenditure on perfumers: a select group of experts skilled in the creation of unique smell experiences. Globally there are less than 900 fully qualified perfumers, of whom only a relatively small number are world-class. It is, moreover, estimated that 60-70% of qualified perfumers reside in Europe. To qualify as a perfumer requires more than seven years training.

- **Market understanding** – significant investments are made, on a long-term basis and during the development of fragrances for specific briefs, in understanding the values, attitudes, and behaviours of end consumer groups. Investments are also made in assessing the response of end consumers to different smell innovations, in anticipating social trends, in testing malodour technologies (often in different urban and personal contexts), and in market testing specific, unique fragrances. Expenditure on training, developing, and employing “evaluators”, experts in the needs of brand owners and end users, complements investment in other forms of market knowledge.

- **Safety** – in response to social concerns about the potential hazards posed by some materials used by the fragrance industry, companies have, over the last twenty years, made substantial investments in product safety. Expenditure on safety evaluation and on understanding the

properties of materials, along with enhanced safety information, has strengthened the reputation of the fragrance industry with brand owners.

- Secondly, operational expenditures to develop new unique products for customers, exploiting and (through the process of “learning-by-doing”) creating strategic assets. This includes all product development activity, as well as most sales, customer support, and marketing expenses.

Fragrance companies use these assets, and operational resources, to generate a continuous flow of unique proprietary fragrance blends. Whilst exact figures for the scale of this activity are not available, industry participants estimate that brand owners issue more than 5,000 to 6,000 new briefs world-wide annually. (New briefs include requirements to re-formulate for cost reasons or to meet new safety information, as well as requests to up-grade existing fragrances and create new ones). This is equivalent to between 8% and 10% of the number of unique blends supplied to brand owners each year.

Fragrance companies use these assets, and operational resources, to generate a continuous flow of unique proprietary fragrance blends. Whilst exact figures for the scale of this activity are not available, industry participants estimate that brand owners issue more than 5,000 to 6,000 new briefs world-wide annually.

5 - ECONOMIC IMPACT OF THE FRAGRANCE VALUE CHAIN

5.1 - Valuation Concept

For all developed world markets and for many markets in developing countries, the largest contribution to jobs and wealth made by fragrance technologies occurs in the economic activity they support within the Manufacturing and Retail stages of the fragrance value chain, and, through the operation of indirect multipliers, in their suppliers. But in turn, this process begins with investments in science, creativity and market knowledge by the Fragrance industry.

Fragrances are, however, not sold directly to end consumers. Rather they are purchased by manufacturers of consumer products and luxury goods, embedded into articles (such as perfumes, shower gels and laundry detergents) and then sold to private individuals. Articles are normally sold through retail outlets, although some, such as hair care products, may be purchased by individuals as part of a wider service provided by hair salons. For manufacturers of luxury goods and fast-moving consumer goods, fragrances are one of a number of enabling technologies used to meet the needs of end consumers.

It is important therefore to find an appropriate method to “value” the distinctive contribution of fragrance technologies recognising that other factors, such as brands, image, or functional performance may also influence initial purchase and subsequent re-purchase of products.

One option is to assume that for a wide range of consumer and luxury goods, fragrances form part of the “expected product”: they are an integral

part of the product offer and consumers could not conceive of purchasing a product without fragrance. In support of this, it is useful to note that so-called “fragrance-free” products have virtually no share of the Fine Fragrance and Beauty, Personal Care, and Household Care markets in Europe. This is despite the size of the overall market, the opportunities for successful niche or segmented marketing strategies, and very high levels of competitive intensity. Indeed, even low fragrance products usually make use of fragrance technologies to mask the unpleasant smell of other ingredients, thereby increasing overall end consumer acceptance.

If this approach is used then all of the direct and indirect economic impacts in the Manufacturing and Retail parts of the value chain, that are triggered by the production and sale of products that make use of fragrance technologies, should be included in any valuation. This is known as the “wide value chain”, and can be used to illustrate the current scale of economic activity that makes use of fragrance technologies. It is not, however, the same as the economic activity that **depends on** fragrance technologies.

An alternative approach is to base the valuation of the economic contribution of fragrance technologies on only part of the final outputs of the Manufacturing and Retail stages of the fragrance value chain. This is known as the “narrow value chain”. Specifically, this valuation is based on identifying **the distinctive benefits that fragrance technologies create for end users and the economic value of those benefits**.

To achieve this, it is essential to identify the type and nature of benefits that are created by fragrance technologies and to estimate their importance, after considering other possible sources of benefit, most notably brand image and product functionality.

Such an approach also implicitly considers the issue of substitutes, most prominently the removal of fragrances from downstream products and the extent and value of market demand for such offers without fragrances.

This is the approach used for this research, and an estimate of the value of the distinctive benefit that fragrances create for end users has been developed. It is measured as a percentage of the final category value for each major product application. The valuation recognises that fragrance technologies create different types of benefit: some more valuable to end consumers than others. It takes into account the role that fragrances play in driving levels of re-purchase for many applications: the most important determinant of category value for consumer products. (Most consumer goods that make use of fragrances are purchased on a weekly or monthly basis.) Finally, the valuation recognises the role that fragrances play in mature markets, such as Europe, in providing ways to generate differentiation, and hence higher category values, by meeting emotional needs and confirming functional performance.

On this basis, it is estimated that the distinctive benefits of fragrance technologies account for between 20% and 80% of final category values, with major differences between product applications. At one extreme, fragrance technologies account for almost the entire value of a number of product categories. (For the purposes of this study, this is estimated to be 80% of category value.) Examples of this include fine fragrances, scented candles, and air care products. In contrast, for product applications where functional technologies and brands remain highly important but where fragrance technologies mask the unpleasant smell of other ingredients and articulate functional performance (and benefits) the value of fragrance technology is estimated to be only 40% of category value. Typically, this level of valuation is found in categories such as shampoos, laundry detergents, and surface cleaners. Indeed, this level of valuation may be viewed as conservative within the mature markets, such as Europe. In some Household Care applications, for instance, use of fragrances to create added value for consumers, by meeting additional emotional needs, is increasing.

The valuation methodology is explained in more detail in Appendix A.

The valuation recognises that fragrance technologies create different types of benefit: some more valuable to end consumers than others.

After examining all major product applications and applying an appropriate valuation, it is estimated that in Europe the distinctive role of fragrance technologies is equal to 45% of the retail sales value of products that make use of fragrances and 35% of the manufacturers output for products sold to industrial and institutional customers.

5.2 - The Narrow Value Chain

The “narrow value chain” highlights the distinctive economic contribution of fragrance technologies. It identifies “*fragrance dependent*” output, jobs, GVA, labour costs and labour taxes within three stages of the value chain: innovation and production by the Fragrance industry; manufacture of products by the Fine Fragrance and Beauty, Personal Care, and Household Care industries (for end consumers and business-to-business customers); and the sale of products that make use of fragrances through a wide range of store and non-store retail outlets.

After examining all major product applications and applying an appropriate valuation, it is estimated that in Europe the distinctive role of fragrance technologies is equal to 45% of the retail sales value of products that make use of fragrances and 35% of the manufacturers output for products sold to industrial and institutional customers. This provides the basis for calculating the direct, indirect, and induced economic impacts for the “narrow value chain”:

- Direct impacts are found in the activities of the fragrance industry and within manufacturers and retailers of products that make use of fragrance technologies. They are based on “fragrance dependent” output at each stage of the fragrance value chain.
- “Fragrance dependent” output from the manufacture and sale of fine fragrance and beauty, personal

care, and household care products, along with services provided by beauty salons, also generates indirect economic impacts through the operation of multiplier mechanisms. Participants in the value chain purchase raw materials, goods and services from external European-based businesses (known as “bought-in goods and services”) to support “fragrance dependent” output. This sustains GVA, jobs, employment costs, and labour taxes in suppliers, generating additional benefits for Europe⁸.

- Induced impacts are estimates on an indicative basis for GVA and jobs, using a conservative multiplier. Values indicate possible impacts of household spending supported directly or indirectly by jobs that are sustained by “fragrance dependent” activities.

5.2.1 - The Narrow Value Chain - The Fragrance Industry

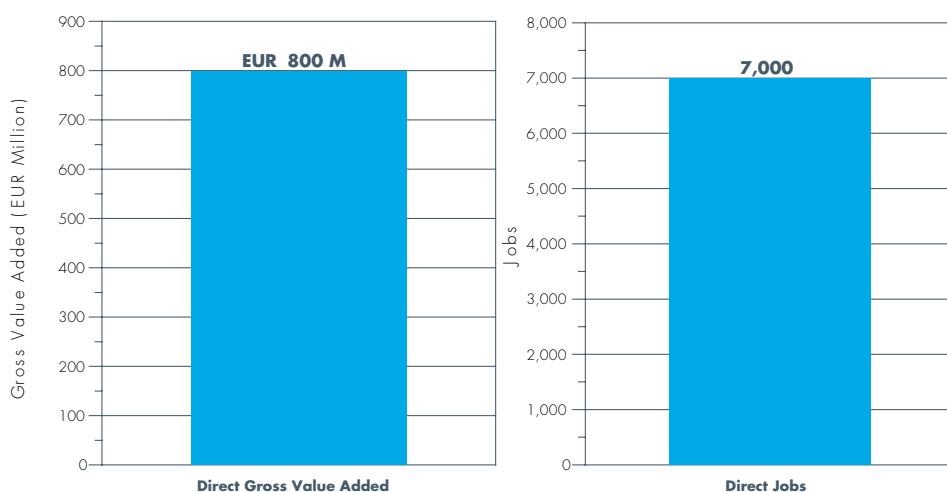
Sales of EUR 1,700 million to European customers and additional investments to support global innovation supported about 7,000 direct jobs in 2010 in the Fragrance industry, and generated a direct contribution to Europe’s wealth (measured as gross value added: GVA⁹) of nearly EUR 800 million (Exhibit 2). Annual direct gross labour costs for fragrance companies were more than EUR 500 million, contributing over EUR 200 million in labour taxes of all types. All of the contribution of the Fragrance industry to the European economy depends on fragrance technologies.

⁸This model takes a conservative approach and focuses solely on the first or immediate tier of suppliers. It does not consider the “trickle down” effects of subsequent purchases from further tiers of suppliers. In view of this, the model focuses on those parts of the supply chain where purchases by the fragrance value chain are most evident, and hence where changes would be most apparent.

⁹The activities of the fragrance industry, and all other parts of the fragrance value chain, contribute to the wealth of Europe as a result of their impact on Gross Domestic Product (GDP). GDP is an indicator of a nation’s economic situation. Within individual companies, industries or sectors, this is broadly equivalent to operating profit plus gross expenditure on salaries and wages, and is described by economists as ‘gross value added’ (GVA).

Exhibit 2 - The European Fragrance Industry

Direct Economic Impacts



Source: The Huggard Consulting Group (2012)

Further, indirect economic benefits occur because multipliers trigger changes in employment and GVA in European-based supplier industries whenever the fragrance industry “buys-in” raw materials, goods and services needed to produce fragrance blends or to provide global innovation services. In 2010, purchases of bought-in raw materials, goods, and services by fragrance companies from European-based suppliers were approximately EUR 600 million, after

adjusting for estimated levels of import penetration. Using a conservative approach that excludes the impact of fragrance companies on every level of the supply chain in Europe, these purchases supported about 3,300 jobs, gross labour income of nearly EUR 200 million, and GVA of close to EUR 300 million¹⁰. Approximately 800 of these jobs are estimated to be in suppliers of specialist raw materials, including processors of imported natural ingredients.

¹⁰These outcomes also take account of purchases of raw materials by in-house fragrance business units within a small number of consumer and luxury goods manufacturers.

5.2.2 - Narrow Value Chain - Manufacturing

Fragrance innovation, where it creates strong, valued benefits for end consumers, increases the value of sales to European consumers or European business-to-business customers or to international buyers. In turn, this underpins part of the value of Europe's manufacturing output. In 2010, EUR 34 billion of manufacturing output depended on the distinctive part played by fragrances in fine fragrance and beauty, personal care, household care, and I&I products. Of this, fine fragrance and beauty products accounted for 43%, with personal care (27%) and household care (23%) also important. In contrast, I&I products only accounted for 7%.

Within the manufacturing stage of the value chain, "fragrance dependent" output supported over

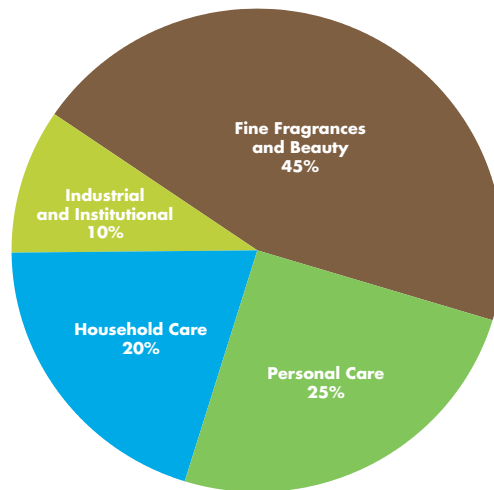
130,000 direct jobs, EUR 11.4 billion of GVA, employment costs of around EUR 7.1 billion¹¹, and labour taxes of EUR 3.3 billion in 2010.

Of the direct jobs linked to output that is dependent on fragrance technologies, the largest number is found in the manufacture of fine fragrance and beauty products, although there are significant numbers in personal care, household care, and I&I as well (Exhibit 3). On a functional basis, jobs are found in production, purchasing, logistics, sales, marketing, product development, R&D, and administration activities, rather than solely within manufacturing facilities¹².

The "fragrance dependent" part of manufacturing output sustains significant GVA. Of this, the manufacture of fine fragrance and beauty products

Exhibit 3 - The European Fragrance Industry "Narrow" Value Chain

Manufacturing: Direct Jobs Dependent on Fragrance Technologies



Total Jobs: 130,000

Source: The Huggard Consulting Group (2012)

¹¹Employment costs are measured on a gross basis, including all labour or equivalent taxes paid by employers and employees, as well as 'fringe' employment costs for benefits such as pensions and healthcare.

¹²The economic model employed in this research uses a "whole business approach" to estimate the economic impacts of fragrance technologies on the manufacturing stage of the value chain. This includes all business functions (including Head Office functions), even if they are not carried out within production facilities.

contributed over 45%, with the other sectors making smaller contributions (Exhibit 4).

“Fragrance dependent” output also required manufacturers of fine fragrance and beauty, personal care and household care products to buy-in goods and services worth nearly EUR 20 billion from European-based suppliers. Through the operation of multiplier mechanisms these purchases supported 90,000 jobs, nearly EUR 9.5 billion of GVA, employment costs of more than EUR 4.5 billion, and a contribution to labour taxes of EUR 2.1 billion.

5.2.3 - Narrow Value Chain - Retail

Part of the expenditure by end consumers on fine fragrances, beauty products, personal care products, household care products along with services sold by beauty salons, depends on the

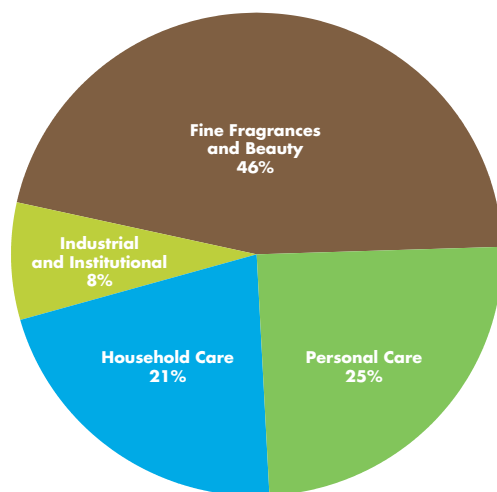
distinctive contribution of fragrance technologies.

In 2010, it is estimated that, for these goods and services, more than EUR 57 billion of retail sales depended on the distinctive part played by fragrance technologies¹³. In turn, this value of retail output contributed generated tax revenues from value added of over EUR 5.6 billion¹⁴.

Non-specialist stores (primarily grocery stores, department stores, parapharmacies, pharmacies, and drug stores) accounted for nearly 50% of this. Of the remainder, beauty specialists (beauty and well-being stores, such as specialist perfumeries, and beauty salons, including hair salons) accounted for 45% and non-store retailers (most notably electronic shopping, mail order, and direct selling) accounted for 5%.

Exhibit 4 - The European Fragrance Industry “Narrow” Value Chain

Manufacturing: Direct Gross Value Added Dependent on Fragrance Technologies



Total Gross Value Added: EUR 11.5 billion

Source: The Huggard Consulting Group (2012)

¹³Retail sales are measured excluding all sales taxes.

¹⁴This is an indicative estimate based on the GVA created in only two parts of the fragrance value chain: direct retail, and direct manufacturing. It reflects average VAT rates for sales of fragrance-dependent products in Europe.

Across this wide range of different retail formats, “fragrance dependent” retail sales supported over 525,000 direct jobs, more than 330,000 informal businesses¹⁵, employment costs of nearly EUR 11 billion, and labour taxes of around EUR 4 billion. Many of these direct jobs are in specialist stores, particularly hair salons and specialist perfumeries, such as Sephora, Douglas, Limoni or Marionnaud. Almost 70% of jobs are in this type of outlet, with the remainder being dispersed across non-specialist store formats or non-store retail channels (Exhibit 5).

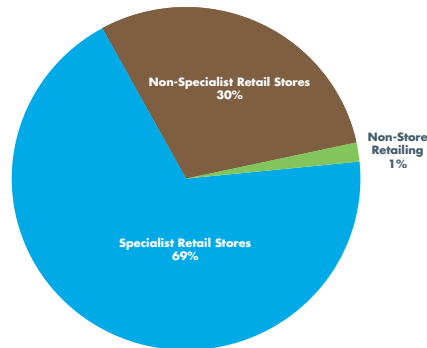
“Fragrance dependent” retail output makes a significant contribution to Europe’s wealth, underpinning GVA of EUR 18 billion. Whilst sales

through store-based retailers make the greatest contribution, non-store retailing is also becoming important, particularly in Eastern Europe (Exhibit 6).

Store and non-store retailers also purchase goods and services to support retail sales that depend on fragrance technologies. It is estimated that in 2010 “fragrance dependent” retail sales in Europe stimulated purchases from European-based suppliers of over EUR 6.5 billion, excluding goods for re-sale. In turn, these purchases supported 30,000 jobs, employment costs of nearly EUR 1.5 billion, and labour taxes of more than EUR 0.5 billion. This scale of indirect economic activity in first tier suppliers also sustained GVA of EUR 2.8 billion.

Exhibit 5 - The European Fragrance Industry “Narrow” Value Chain

Retail: Direct Jobs Dependent on Fragrance Technologies

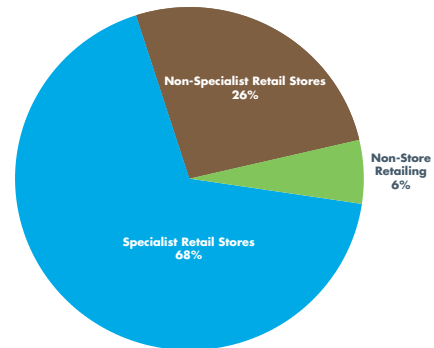


Total Jobs: 525,000

Source: The Huggard Consulting Group (2012)

Exhibit 6 - The European Fragrance Industry “Narrow” Value Chain

Retail: Direct Gross Value Dependent on Fragrance Technologies



Total Gross Value Added: EUR 18 billion

Source: The Huggard Consulting Group (2012)

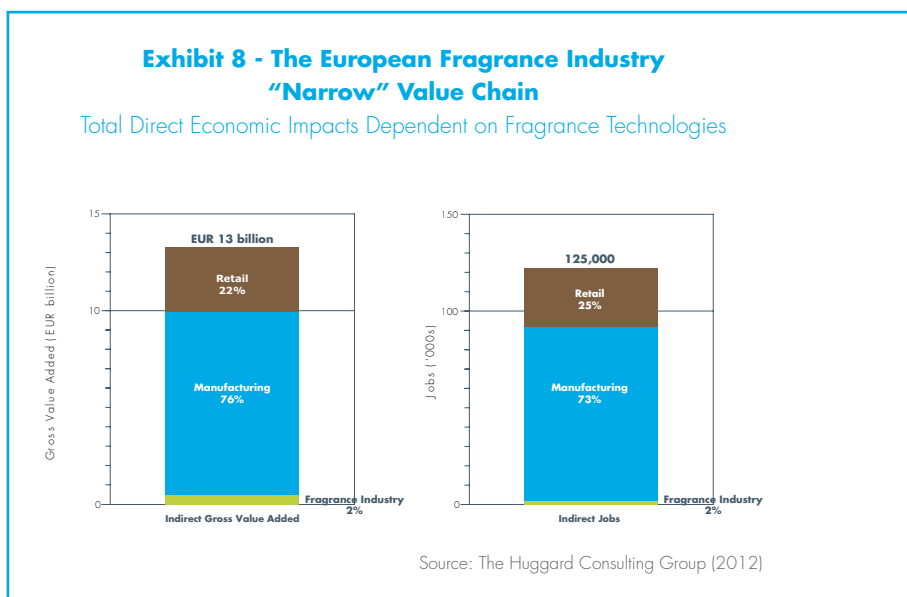
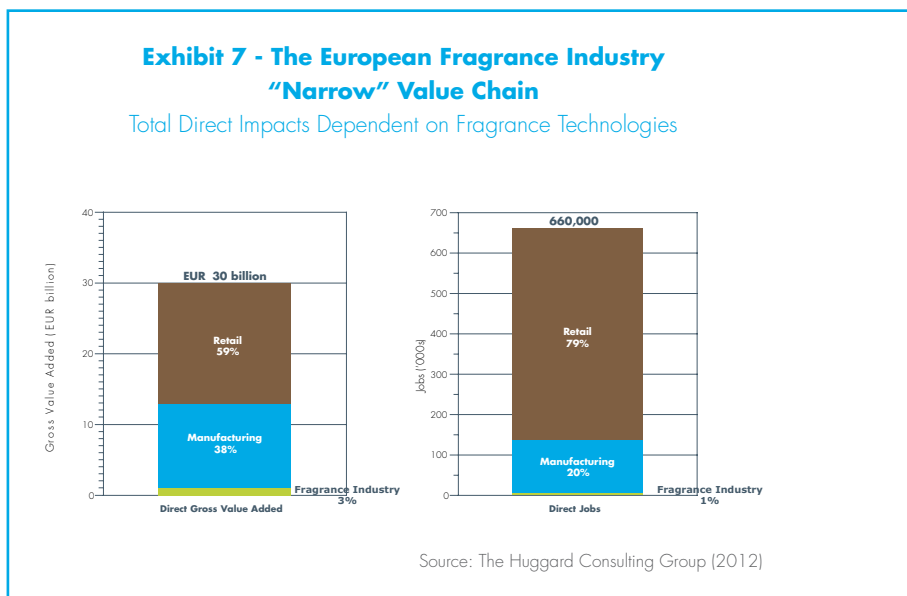
¹⁵To ensure comparability with other studies undertaken for this client, a US-based definition forms the basis for these estimates. Such businesses are classified by the US Department of Commerce as ‘informal’. They have no paid employees but they have sales of EUR 750 or more, and they are subject to income tax. Substantial numbers of such businesses are involved in the provision of hair salon services and in direct selling of personal care, fine fragrance, and beauty products. It is reasonable to assume that part-time employment is linked to these enterprises.

5.2.4 - Narrow Value Chain - Total Impacts

Total Direct – Taking all three stages of the value chain together, “fragrance dependent” output supported EUR 30 billion of GVA and over 660,000 jobs directly in Europe in 2010. These economic benefits are the result of brand owners and retailers exploiting investments by the fragrance industry in innovation, science, and creativity to create new markets, to meet new needs, to differentiate brands, and to create added value. These jobs, and the output that supports them, also sustain more than EUR 18 billion of employment costs, and more than EUR 13 billion of taxes (labour and added value).

The distribution of direct economic benefits from “fragrance dependent” output is heavily concentrated in the downstream parts of the fragrance value chain. The greatest concentration of GVA and employment is, for example, supported by retail sales that depend on the distinctive contribution of fragrance technologies (Exhibit 7).

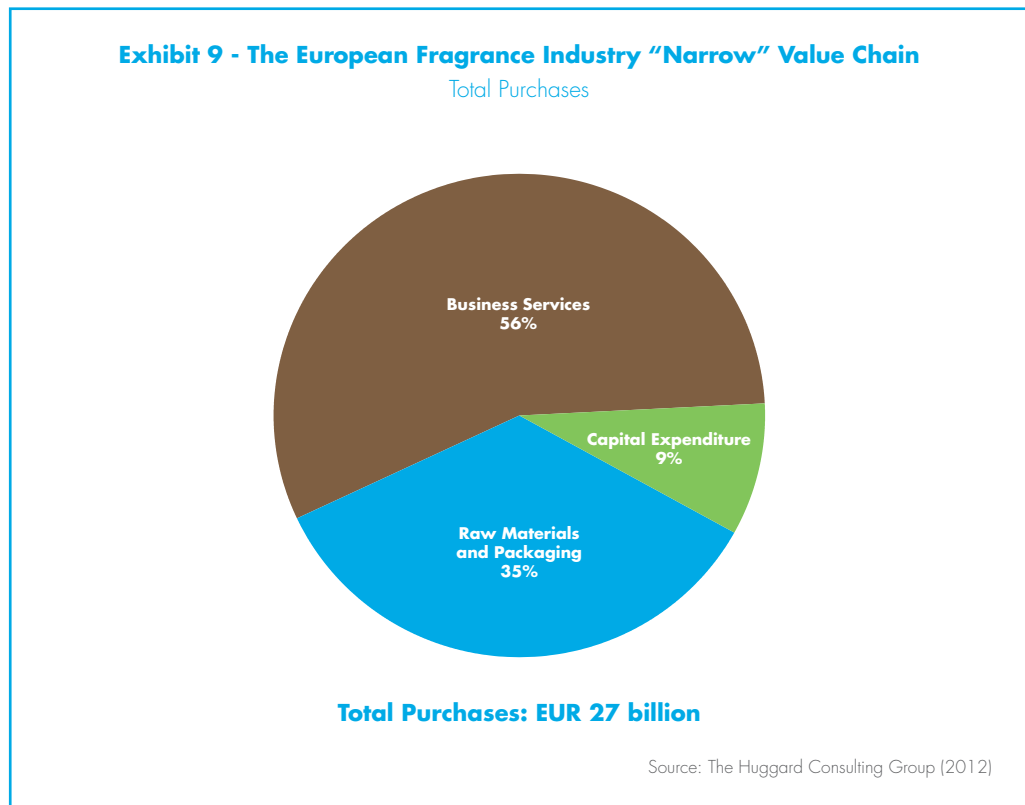
Total Indirect – “Fragrance dependent” output in all stages of the fragrance value chain triggered purchases of raw materials, goods and services of nearly EUR 27 billion from European-based suppliers in 2010. These purchases, through the operation of indirect multiplier mechanisms, supported 120,000 jobs and GVA of EUR 13 billion in European-based suppliers (Exhibit 8).



Taking all three stages of the value chain together, “fragrance dependent” output supported EUR 30 billion of GVA and over 660,000 jobs directly in Europe in 2010.

More than 55% of these purchases involved sourcing business services (such as logistics, professional and technical services, business support, facility and equipment maintenance, travel and accommodation,

and advertising) whilst the remainder was split between raw materials and packaging (35%) and capital expenditure (10%). This is illustrated below (Exhibit 9).



On a conservative basis, over 940,000 jobs and an additional 330,000 small, informal businesses are sustained by the economic output at all stages of the value chain that depends on the distinctive contribution of fragrance technologies. This is the scale of "fragrance dependent" employment, and reflects direct, indirect and induced impacts. Over 660,000 of these are direct jobs in the fragrance industry, manufacturers, and retailers. A further 120,000 jobs are sustained indirectly in supplier industries through the purchases of raw materials, goods, and services to support fragrance-dependent output within the value chain. Induced impacts, based on a conservative and indicative multiplier, added a further 160,000 jobs elsewhere in the European economy, reflecting additional consumption spending by households where jobs are supported directly or indirectly by "fragrance dependent" output.

Nearly 70% of "fragrance dependent" employment is sustained by activities in retailing, with the remainder triggered by the manufacturing and fragrance industry stages of the value chain (Exhibit 10).

Each of the sectors shown in right-hand diagram of Exhibit 10 (retail, manufacturing and fragrance industry) is composed of direct, indirect and induced employment. The numbers have been rounded for the purposes of the value chain. Exhibit 11 below shows a break-down of total jobs in Fragrance industry.

Fragrance technologies also make a substantial contribution to Europe's wealth. **After taking account of direct, indirect, and induced impacts, it is estimated that "fragrance dependent" output throughout the fragrance value chain in Europe supported GVA of over EUR 51 billion.** Direct economic impacts within the value chain

account for EUR 30 billion. The remainder are the result of indirect multiplier impacts through purchases from European-based suppliers (EUR 13 billion), and induced multipliers due to additional consumption spending (EUR 8 billion).

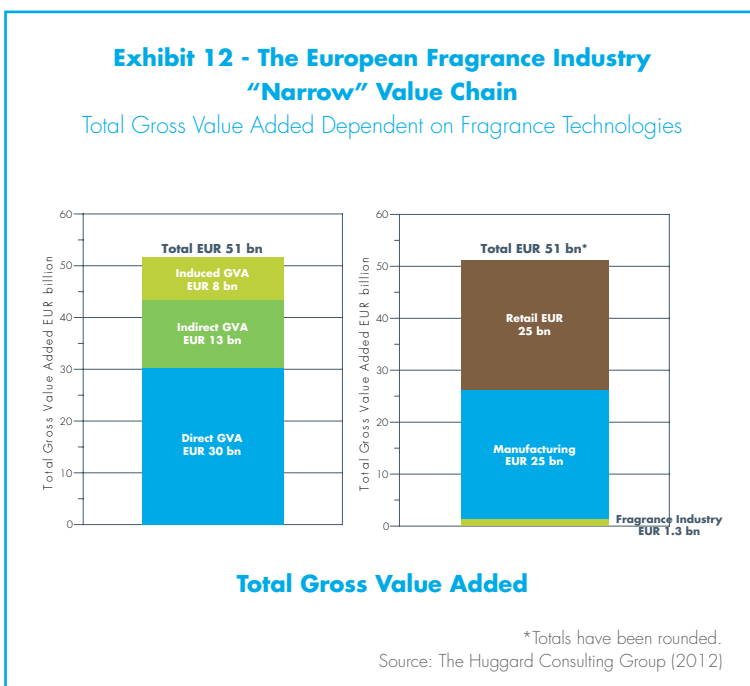
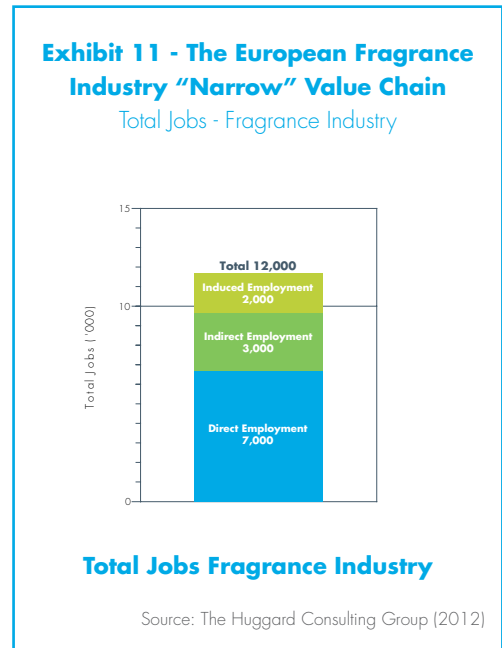
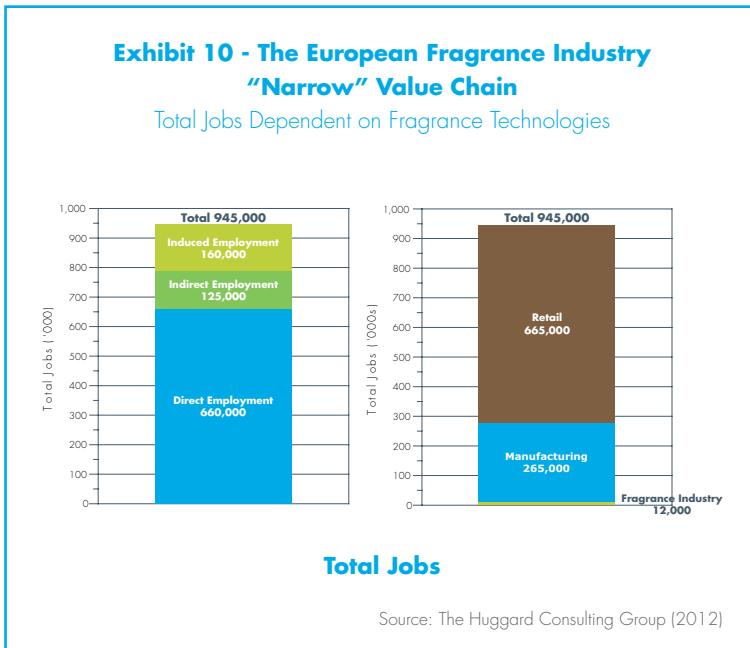
Within the fragrance value chain, the activities of retailers sustained nearly 50% of “fragrance dependent” GVA, whilst manufacturers and the

fragrance industry accounted for the remaining 50% (Exhibit 12).

Additional data is contained in Appendix B.

5.3 - Wide Value Chain

The wide value chain highlights the scale of economic activity in Europe that involves products that use fragrance technologies.



It provides an insight into the scale and nature of the “economic footprint” of a technology. For this group of products in the Fine Fragrance and Beauty, Personal Care, and Household Care industries, the wide value chain encompasses output at each stage of activity including innovation and production of fragrances, manufacture of articles, and sale to end consumer and business-to-business customers, with associated impacts on GVA, jobs, employment costs, and taxes (labour and added value).

5.3.1 - Wide Value Chain - Fragrance Industry

All of the output in this initial stage of activity forms part of the wide value chain. Total European output of fragrance blends of EUR 1,700 million, along with associated expenditure on global innovation, supports more than 7,000 direct jobs, direct GVA of nearly EUR 800 million, employment costs of EUR 500 million, and total labour taxes in excess of EUR 200 million.

5.3.2 - Wide Value Chain - Manufacturing

In the manufacturing stage of the value chain products that make use of fragrance technologies generated output of over EUR 78 billion (including net exports outside Europe of more than EUR 11 billion) which, in turn, supported GVA of nearly EUR 27 billion. It also supported 300,000 direct jobs, employment costs of over EUR 16 billion and labour tax payments in excess of EUR 7 billion. Using a “whole business model” approach these jobs are found in the complete range of business functions (including Head Offices), not solely in production.

In 2010, manufacturing output of products that make use of fragrance technologies was distributed between Fine Fragrance and Beauty products (EUR 33 billion), Personal Care products (EUR 21 billion), Household Care products (EUR 18 billion), and production of household and personal care products for I&I markets (EUR 6 billion).

A characteristic of the manufacturing stage of the “wide value chain” is its geographic dispersion throughout Europe. Whilst there is some clustering of head office, innovation, and strategic functions in France, UK, Germany, and Switzerland, production is distributed much more widely (Exhibit 13).

Exhibit 13 - Fragrances and Consumer Goods Industries Widespread Geographic Distribution

Strategic Functions – Head office and business management activities for major global manufacturers of products that make use of fragrances are located predominantly in four European countries: France (examples include L’Oréal, Clarins, LVMH, and Chanel); UK (Unilever, Reckitt Benckiser, McBride, PZ Cussons, and Procter & Gamble); Germany (Henkel, Beiersdorf, and Procter & Gamble); and Switzerland (Coty, Elizabeth Arden, and Shiseido). Other important centres include Spain (Puig), and Sweden (Oriflame).

Innovation Centres – Many of the largest global manufacturers of products that make use of fragrances have significant Innovation Centres in Europe. These include L’Oréal, Puig, Clarins, LVMH, Shiseido, and Chanel in Paris, France; Procter & Gamble in Egham, UK, Brussels, Belgium, and Cologne, Germany; Coty in Geneva, Switzerland; Reckitt Benckiser in Hull, UK; Unilever in Port Sunlight, UK; PZ Cussons in Manchester, UK; Puig in Barcelona, Spain; Beiersdorf in Hamburg, Germany; Henkel in Dusseldorf, Germany; Ferragamo in Florence, Italy; Euroitalia in Milan, Italy, and Oriflame in Stockholm, Sweden.

Production – Whilst strategic and innovation functions for global manufacturers tend to cluster in a small number of countries, there is, however, a very wide geographic spread of production throughout Europe. France is the biggest producer of products that make use of fragrances (producing 23% of total value). Germany is also a major centre of production (17% of value), as is Spain (16%). But a large number of other European countries are also significant producers: UK (8%); Switzerland (5%); Poland (4%); and Belgium (3%). Other European producers include Czech Republic, Ireland, Greece, Hungary, Netherlands, Austria, Portugal, Slovenia, Sweden, and Norway.

A further insight into the widespread geographic distribution of production facilities can be obtained by looking at individual companies. For instance, McBride, Europe's leading producer of private label household cleaning and personal care products, has production sites that use fragrances at Barrow (UK), Bergamo (Italy), Bradford (UK), Brno (Czech Republic), Burnley (UK), Estaimpuis (Belgium), Etain (France), Foetz (Luxembourg), Hull (UK), Ieper (Belgium), Middleton (UK), Moyaux (France), Rosporden (France), Sallent (Spain), and Strzelce (Poland).

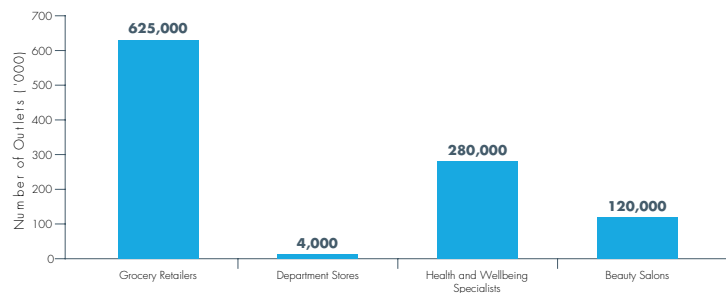
Sources: Eurostat, Annual Company Accounts, The Huggard Consulting Group

5.3.3 - Wide Value Chain - Retail

Purchases by end consumers of products and services that make use of fragrance technologies generated over EUR 119 billion in retail sales in 2010. In turn, these purchases supported direct GVA of nearly EUR 40 billion, 1,180,000 jobs, 860,000 informal businesses¹⁶, employment costs of nearly EUR 23 billion, and payments of labour taxes of around EUR 8 billion.

Purchases were made through a wide range of store and non-store retail outlets. Nearly 55% took place in non-specialist retail formats (primarily grocery stores, department stores, and drug, parapharmacy, and pharmacy stores), with the remainder occurring in specialist stores focused on beauty products or services (40%) or non-store retailers (5%). Indeed, it is estimated that, at least 1,000,000 retail stores in Europe sold fragrance-based products or services to end consumers in 2010 (Exhibit 14)¹⁷.

Exhibit 14 - European Stores Selling Fragrance-Based Products or Services



Source: Verdict, Euromonitor, Study Estimates 2010

5.3.4 - Wide Value Chain – Total Impacts

In 2010, the manufacture and sale of products and services that use fragrance technologies sustained direct GVA of EUR 67 billion, nearly 1.5 million jobs and an additional 860,000 small informal businesses. Additional economic benefits generated included employment costs of EUR 40 billion, labour taxes of nearly EUR 16 billion, and taxes on added value of EUR 12.5 billion.

¹⁶These are found in two retail sectors: direct selling and hair salons.

¹⁷This is a conservative estimate based solely on the most important store formats for fragrance-based products. These are grocery, health and well-being specialists (including drug and pharmacy), department stores, and hair salons.

These estimates have, however, been made on a conservative basis. They assume that, for each of the products or services included in the scope of the analysis, a material proportion of total output value is dependent on the distinctive contribution of fragrance technologies. In practice this has been assumed to be at least 20%.

If the current definition of the wide value chain was to be widened further to include all products or services that include any use of fragrance technology, then other economic activities could be included. Take, for instance, the use by Institutional and Industrial (I&I) customers of products that contain fragrance technologies. These products are used extensively in a number of sectors including contract cleaning. Within Europe, there are more than 158,000 businesses supplying contract cleaning services. These have revenues of EUR 62 billion and employ 3.75 million people. Most of these people work on a parttime basis and over three-quarters are women. The current valuation of the wide value chain, on the grounds of prudence and conservatism, excludes these economic activities.

A further insight into the extent of the “economic footprint” of fragrance technologies in Europe can be obtained from an analysis of the scale of the direct selling industry in Europe. This a non-store retail channel based on direct contact between a person or group or persons acting as agents for product manufacturers and their customers, often friends, neighbours, or work colleagues. Products that use fragrance technologies are one of the most important groups of product categories sold through this channel, probably accounting for 25-30% of total sales. Whilst the channel is used throughout Europe, it is of particular importance in Eastern Europe. The current valuation of the wide value chain recognises this, and includes impacts on formal business and on

self-employed enterprises. It does not, however, take account of the very large number of people involved in this activity on a low-level basis, possibly earning annual revenues of less than Euro 500 per annum. Using this additional measure of economic impact, it is estimated that further 950,000 people, mostly women and many of them on low incomes, are involved with the sale of products that use fragrance technologies. Due to the low level of annual revenues and the informal nature of these activities, the current valuation model excludes these people.

Across all stages of the wide value chain, the manufacture and sale of products and services that make use of fragrance technologies supports economic activity. In turn, these outputs trigger purchases from European suppliers of raw materials, goods, and services. In 2010, nearly EUR 59 billion of bought-in goods and services were purchased to support manufacturing and retailing activities linked to goods and services that use fragrance technologies. On a conservative basis, these purchases sustained indirect GVA of almost EUR 28 billion, 270,000 jobs, employment costs of around EUR 13 billion, and labour taxes of nearly EUR 6 billion.

Expenditure on bought-in goods and services was split between business services (55%), raw materials and packaging (35%) and capital expenditure (10%). One of the most important categories of expenditure was the purchase of advertising services and media by brand owners and retailers. Fine fragrance, beauty, personal care, and household care brands are heavily advertised, using a mix of TV and print media.

After taking account of direct, indirect and induced impacts, the manufacture and sale of products in Europe that make

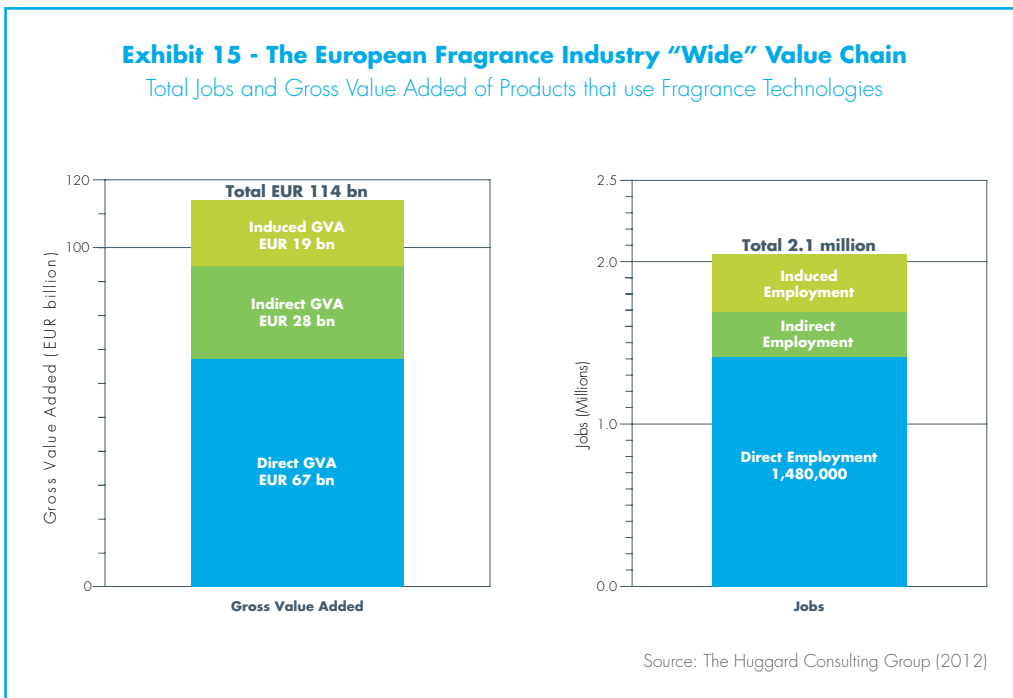
use of fragrance technologies supports nearly 2.1 million jobs and an additional 860,000 small, informal businesses. This is the employment impact on Europe of the wide fragrances value chain. It is made up of 1,500,000 direct jobs, 270,000 jobs in suppliers, and a further 350,000 jobs in other parts of the European economy due to consumption spending impacts.

Output generated at each stage of the fragrances value chain also creates wealth. On a conservative basis, the wide fragrances value chain sustains nearly EUR 114 billion of GVA after

including the impact of indirect and induced multipliers. The largest part comes from direct impacts (EUR 67 billion) but purchases from suppliers sustains a further EUR 28 billion and consumption spending impacts, estimated using a conservative induced multiplier, supports an additional EUR 19 billion of GVA.

The scale of the wide value chain is illustrated below (Exhibit 15)

Appendix C provides further details of the economic impacts of the wide value chain.



6 - OTHER PUBLIC BENEFITS

6.1 - Innovation and Productivity

In most mature economies, economic growth occurs not because of increases in quantities of people or capital utilised but as a result of the successful application of ideas. New or improved products, services, and business methods enhance the efficiency with which capital and labour are used, driving up productivity. Indeed, in modern economies, productivity growth makes the greatest contribution to improvements in living conditions and to delivering more and better jobs. Productivity grows because companies innovate, leading to greater efficiency or higher added value or both. Economic gains are, moreover, maximised when the productive performance of large-scale sectors increases.

Innovation drives the fragrance value chain. Investments in intangible assets by fragrance companies, utilised in partnership with brand owners, provide one of the principal means for achieving continuous innovation in markets with more than EUR 140 billion of annual consumer spending¹⁸. Fragrance technologies enable productivity growth in the value chains supporting these markets by facilitating different types of innovation. This includes:

- Creating new consumer markets for products or services;
- Refreshing existing, mature consumer markets; and
- Facilitating the development of new store and non-store retail formats;

¹⁸Expenditure by ordinary households includes gross output VAT charged on retail goods and services

Each of these types of productivity-enhancing innovation can be illustrated by a series of examples.

Create New Consumer Markets – Fragrance technologies are used to create entirely new consumer markets. Brand owners exploit the unique abilities of fragrance technologies to meet highly valued emotional or functional needs and build successful businesses around these. An example is the successful, global growth of the “Axe” brand of bodysprays (Exhibit 16).

Another example of the capability of fragrance technologies is the growth in Europe of the scented candles market – a sector that could not exist without fragrance. Over the last decade, the scented candles market in Europe has experienced significant growth. Today it is worth in excess of EUR 1 billion at consumer prices and represents a significant proportion of all candle sales in Europe. The home improvement boom and increasing interest in interior design, home décor, comfort and personal well-being has driven the growth of this market in Europe. Scented candles are sold through a wide range of different outlets, including grocery stores, health and beauty retailers, direct sellers, online, and specialist “well-being” outlets.

Fragrance is one of the most important factors influencing candle purchasing, and there is a very wide range of different candle scents now available. Manufacturers strive to develop new fragrances that will resonate with customers. Many focus on “natural” scents that evoke pleasant memories, accompanied by pleasing design.

Exhibit 16 - Fragrance Technologies and Bodysprays for Teenage Boys The Global Success of "Axe"¹⁹

Over the last decade, consumer goods companies have created a bodyspray market for young men. "Axe", the leading brand, along with its competitors, uses fragrance technologies to deliver scent experiences to teenage boys, enhancing their perceived attractiveness to girls whilst at the same time masking malodours. Supported by emotionally charged advertising, product innovation, based on fragrance technologies, has expanded the market for deodorants and anti-perspirants by developing an economically accessible market for fragrances amongst young men.

Here the innovative capability of the fragrance industry has combined with the know-how and expertise of the brand owner to meet selected needs of a specific market segment, creating added value in an overall market sector worth more than EUR 4.3 billion and thereby raising productivity.

Europe has benefitted in other ways as well. "Axe", the leading brand in this market, is owned by Unilever. Supported by significant expertise and investment from the brand owner, the brand is a success globally, including generating substantial sales in the USA. Whilst production of "Axe" products for non-European markets is located elsewhere, product development and strategic brand management is undertaken in Europe, supporting high skill and high wage employment. Unilever's strategic centre for fragrance development is, for example, located in Port Sunlight in the UK, an economically lagging area.

Sources: Eurostat, Annual Company Accounts, The Huggard Consulting Group

¹⁹In some markets, such as the UK, this product is branded 'Lynx'.

Refresh Mature Consumer Markets – Brand owners use fragrance technologies to help improve consumer value in a wide range of mature markets. Many of these changes are the result of incremental innovation, whilst others exploit major scientific breakthroughs. All add value, creating productivity improvements and generating economic benefits.

Sometimes fragrance technologies are used to help brand owners develop new market niches. An example is the growth of new up-scale fine fragrances for women that are priced between traditional premium brands and above widely available mass brands. Brands such as the “Armani Privé” range from L’Oréal exploit the desire of some women to use differentiated, premium brands for social occasions rather than traditional up-market scents. Market growth is the result of partnership between brand owners and fragrance technologies, exploiting creativity and the use of innovative raw materials to develop new perfume experiences.

A different example involves the use of fragrances to provide a means of adding additional emotional

benefits to existing products. For products such as shampoos and shower gels, fragrances initially provided a means of masking the smell of other ingredients (thereby increasing consumer acceptance) and of articulating major functional benefits. As these markets matured and consumers became less stimulated by functional benefits, brand owners made further use of fragrance technologies to create particular moods and meet the emotional needs of specific segments of consumers. Similar strategies have been employed in a diverse range of product categories including surface cleaners, body washes, deodorants, soaps, and fabric softeners. Through this process, fragrance innovation helps brand owners create more value for consumers, improving productivity.

Fragrance technologies can also deliver new functional benefits that, if combined with existing brand franchises, deliver new sources of value within previously mature markets. An example is the role that fragrance technology has played in the fabric softener market (Exhibit 17).

Exhibit 17 - Fragrance Technologies and Fabric Softeners Encapsulation Technology

Fabric softeners are a widely used textile care product. In many households they form part of the normal wash cycle, caring for clothes and helping millions of people look and feel good. At a functional level they prevent static cling, making fabrics feel softer. Emotionally, they deliver sensuous, long-lasting fragrance sensations, enhancing well-being and demonstrating freshness, softness, and caring.

European consumers spend more than EUR 2.2 billion on fabric softeners each year. A substantial proportion of this value is sustained by the innovative use of advanced fragrance technologies by brand owners, and by investment in science and creativity by fragrance companies. Fragrance-based innovation helps brand owners articulate the benefits of softness and freshness to consumers whilst delivering emotional benefits through distinctive smell sensations. At the same time, innovation by fragrance companies has provided brand owners with the ability to deliver additional functional benefits, most notably longer-lasting freshness and malodour control.

One of the most important ways in which these benefits have been delivered has been through the development of encapsulation technologies by the fragrance industry. Advanced polymer and liquid crystal science has been used to develop a range of proprietary technologies designed to provide long-lasting controlled release of fragrances. One example involves the use of microcapsules that are opened when cloth is rubbed or stroked. Once the capsule is opened it releases the fragrance contained inside, providing an olfactive boost and generating a fragrance experience.

Skillful exploitation of these, and other technologies, has enabled brand owners to exploit the potential of fragrances to sustain consumer value and brand equity in a mature, complex market.

Sources: The Huggard Consulting Group, Various Company Annual Accounts

New Retail Store Formats – In Europe, one of the most important store formats for the retail distribution of fine fragrance and beauty products is the specialist perfumery. Led by multi-country retail chains such as Sephora, Douglas, and Marionnaud, these stores provide consumer with a wide range of branded fine fragrance and beauty products in a pleasant environment, supported by expert sales advice. For many customers, this is a desirable retail experience involving an intimate interaction with informed staff.

However, for some groups of consumers, traditional specialist perfumeries do not meet all of their needs. For instance, some are looking to buy different types of fine fragrance and beauty products, based on natural ingredients, in new, innovative retail environments. To meet these needs, investors and entrepreneurs have devised new retail formats to supply edited product ranges, linked together through innovative fragrance technologies, designed to meet the emotional needs of selected groups of consumers. Indeed, fragrance technologies lie

behind the success of the differentiated specialist perfumery sector. Many stores of this type focus on wider social values (such as the desirability of supporting sustainability or heritage or nature), using fragrance technologies to evoke desired emotions and to provide a theme that links together the overall product range. Sales made by these outlets create additional value added, because the needs of specific groups of consumers are met more effectively than before, triggering additional employment and GVA.

A well-known example of this form of retail innovation, based on fragrance technologies, is the “L’Occitane en Provence” multi-country retail chain (Exhibit 18).

Exhibit 18 - Fragrance Innovation – New Retail Formats “L’Occitane en Provence”

Founded in 1976 by Olivier Baussan, “L’Occitane en Provence” is a global, natural and organic ingredient-based cosmetics and well-being products company, with strong regional roots in Provence. L’Occitane designs, manufactures and markets a wide range of cosmetics and well-being products including fragrances, body care, face care, hair care, toiletries, men’s grooming products and home fragrances. L’Occitane draws inspiration from Mediterranean cultures, developing a range of products that are natural, authentic, effective and appealing. The company describes itself as a true “art de vivre, devoted to well-being and sensory delight.”

With sales of over EUR 900 million, L’Occitane products are now sold in over 80 countries through over 1,500 retail locations which exclusively sell L’Occitane products. Of the total L’Occitane retail locations, over 1,000 are company-owned stores, and approximately 800 are stores operated by third party distributors and airport duty-free stores. All are decorated in a standardised L’Occitane design. From its origins in Provence, L’Occitane is now a global success story with products sold in Europe, Asia, and the Americas. Net sales grew by 18% last year and 158 new stores were opened. Recent growth has been particularly strong in Japan, Hong Kong, China, the USA, Brazil and Russia.

Sources: The Huggard Consulting Group, Various Company Annual Accounts

Similar format innovation, based on fragrance technologies, has also occurred within individual European countries. One good example is the

success of the “Bottega Verde” chain in Italy (Exhibit 19).

Exhibit 19 - Bottega Verde

Bottega Verde started life as a small herbalist store in Pienza, near Sienna, Italy, with a passion for artisan production and sale of cosmetic products based on natural active ingredients. In 1996, the first Bottega Verde cosmetics store opened, selling only Bottega Verde products. Today the company has over 400 stores in Italy, and is Italy’s number one business manufacturing and selling cosmetics, personal care products and toiletries containing natural active ingredients. It is also Italy’s leading single brand retailer of beauty care products, the first beauty products website in Italy and the leading Italian mail order cosmetics company.

Sources: The Huggard Consulting Group, Various Company Annual Accounts

New Non-Store Retail Formats –

Throughout most of Europe, products that make use of fragrances are primarily distributed through retail stores, most notably grocery, drugstore, and specialist perfumery outlets. An exception is Eastern Europe. Here, non-store retailing is of significant importance, reflecting lower levels of disposable income and slower development of modern store-based retail formats.

Direct selling, through face-to-face meetings and party plans, is the major non-store retail channel in

Eastern Europe, and its growth has been driven by products that depend on fragrance technologies. Avon, Mary Kay, Amway, and others have used their expertise and fragrance-based product ranges to develop networks of independent sales agents, creating substantial GVA and employment. Alongside these established businesses, new European-controlled companies have emerged, using fragrance technologies to develop differentiated products, facilitating market entry and creating added value. A good example is Oriflame, the Swedish-based company (Exhibit 20).

Exhibit 20 - Developing Non-Store Retail Businesses Oriflame

Oriflame is one of the world's fastest growing direct selling beauty companies. It markets its products through a network of approximately 3.5 million independent consultants in more than 60 countries worldwide. In more than half of these countries, Oriflame is the market leader. Founded in Sweden in 1967 by two brothers, it now has annual sales of EUR 1.5 billion, nearly 8,000 employees, a global R&D centre employing more than 100 scientists, five production sites (in Sweden, Poland, China, Russia and India) and a product range of around 1,000 products. Sales have grown at 14% per annum over the last decade.

Oriflame has remained true to its original concept of natural Swedish cosmetics, skin care, personal and hair care and fragrance products. It has also promoted a strong entrepreneurial culture which gives people the freedom to set their own targets, income and working hours, and to change their lives for the better. Nearly 60% of sales (EUR 0.9 billion) are in CIS and the Baltics, where independent consultants have seized upon the opportunity to build their own businesses.

Sources: The Huggard Consulting Group, Various Company Annual Accounts

As an "engine of innovation", fragrance technologies help to raise the productive performance of manufacturers of fine fragrance, beauty, personal care and household care products,

and of the retailers that sell such products. Through this process, fragrances build employment and wealth for Europeans today, and in the future.

6.2 - Global Competitiveness, Innovation and Fragrance Technologies

In industries that use fragrance technologies, Europe is a global leader. Fragrance technologies play a critical role in this. They are an “engine of innovation”, supporting brand owners in Europe and elsewhere, and providing brand owners with a continuous stream of new ways of meeting additional customer needs, of creating new markets, and of increasing consumer value. For many long-standing consumer brands, moreover, fragrances developed and sustained in the highly competitive and demanding European market provide the competitive edge and unique sources of value that drives market success, enabling brand owners to compete effectively with local or domestic brands outside Europe. Lying behind this are major investments in intangible assets, including creativity, science, and product development capabilities, which have been made by the global fragrance industry in Europe, providing brand owners with access to world-class innovation expertise.

Leadership in the world’s fine fragrance, beauty, personal care and homecare markets creates significant benefits for Europeans through a range of different mechanisms:

Major exporter – Europe is the world’s biggest exporter of products that use fragrances. In 2010, net European exports exceeded EUR 11 billion, equivalent to nearly 15% of total manufacturing output of products that use fragrances. This success in global markets generates high value, well-paid jobs in manufacturing, as well as contributing to Europe’s wealth. Many production facilities for products that use fragrances are, moreover, located in lagging regions of Europe. Manufacture of products for export helps to sustain Europe’s manufacturing base in these areas, contributing to the retention of skills and higher living standards, as well as to the protection of social cohesion (Exhibit 21).

Exhibit 21 - Europe: Net Exports of Products that use Fragrances 2010

Product Category	EUR billion
Perfumery, cosmetics and toilet preparations	9.0
Soap, cleansing and polishing preparations	2.4
Total	11.4

Main export destinations are USA, Russian Federation, UAE, Singapore, Japan, Turkey, Ukraine, China, Australia, Korea, Saudi Arabia, and Canada.

France, in particular, is a major net exporter of perfumes and toiletries, with net exports of Euro 7.3 billion in 2010.

Source: United Nations COMTRADE 2010

Management and development of global brands

– European companies are global leaders in products that make use of fragrance technologies. Indeed, brands owned by global multi-national companies (predominantly European or US-controlled) have a worldwide market share of 50-60% in fine fragrance, beauty, personal care and household care markets. Whilst a significant proportion of the production of products for non-European markets is located elsewhere, important strategic activities, most notably brand

management, innovation, R&D, finance, and strategic control continue to be located in Europe. This creates economic benefits, including significant numbers of high-skill, well-paid jobs, as well as support for Europe's science base and its marketing services industries.

Some idea of the scale of these strategic activities can be found by looking at two of Europe's most successful companies in markets that make use of fragrances (Exhibit 22).

Exhibit 22 - European Multinational Companies

Many EU-based companies are global success stories in products that make use of fragrances. They include LVMH, Clarins, and Puig in fine fragrances; L'Oréal and Oriflame in fine fragrance and personal care; Beiersdorf in personal care; Unilever and Henkel in personal care and household care; and, Reckitt Benckiser in household care.

A more detailed examination of Henkel and L'Oréal shows how success in global markets translates into economic benefits for Europeans:

Henkel – This leading German company operates worldwide with leading brands in three areas, including laundry and homecare, cosmetics and toiletries and adhesive technologies. Founded in 1876, Henkel holds globally leading market positions both in the consumer and industrial businesses with well-known brands such as Persil and Schwarzkopf. Turnover is in excess of EUR 15 billion. Headquartered in Düsseldorf, Germany, Henkel has more than 47,000 employees. Although the majority of Henkel's sales are outside Europe, around a half of its employees are based in Europe and a half elsewhere in the world.

L'Oréal – The L'Oréal Group is the world's largest cosmetics and beauty company, and a worldwide leader in cosmetics, haircare, hair colour, skincare, make-up and fragrances. Global sales in 2011 exceeded EUR 20 billion and operating profits were EUR 3.3 billion. L'Oréal markets 27 global brands in 130 countries. Examples include: L'Oréal Paris, Garnier, Maybelline, Softsheen Carson, Lancome, Diesel, Giorgio Armani, and Vichy. With its head office in Paris, France, it has nearly 69,000 employees based in 66 countries around the world. This includes 41 factories worldwide. Geographic distribution of Investments in R&D and brand management does not, however, reflect the global profile of sales. For instance, L'Oréal employs nearly 5,000 researchers in five worldwide R&D centres: two in France; one in the US; one in Japan; and one in China.

Sources: The Huggard Consulting Group, Companies Annual Accounts

Marketing Services Cluster – Brands owned by major companies such as LVMH, Chanel, L'Oréal, Unilever, Henkel, and Reckitt Benckiser are amongst the world's leaders in the fine fragrance, beauty, personal care, and household care markets in Europe and globally. Supporting these brand owners is a major marketing services industry that provides a source of new ideas and helps build the image of brands. Indeed, brand owners spend EUR 8-10 billion each year in Europe supporting the marketing of products that use fragrances. This includes spending on advertising, sales promotion, marketing consultancy, and design consultants. Within this, expenditure on advertising on products that make use of fragrances plays a critical role

in sustaining the European magazine industry, for example. On average, advertising accounts for more than 45% of revenues by magazine publishers. Fragrance innovation, moreover, provides many of the new ideas or provides the experiential basis for brand images that are communicated each year through advertising.

Geographically, Europe's marketing services sector is distributed widely, although there are distinct clusters in London (UK), Milan (Italy), and Paris (France). Some idea of the economic importance of these industries can be obtained by looking at one of these clusters (Exhibit 23).

Exhibit 23 - The Impact of Advertising on the UK Economy

A recent study has shown that the UK Advertising Industry has a significant impact on the UK economy. It generates EUR 19 billion of Gross Value Added (direct, indirect and induced) and employs 120,000 people directly. London (and South-East England) is a significant advertising cluster, with over a half of all advertising employees located there.

Sources: The Huggard Consulting Group

Within the marketing services sector, Europe has, moreover, some of the world's leading advertising agencies. Examples include WPP and Publicis, both of which are top five agencies worldwide.

Both have huge global operations but have their Headquarters in Europe (UK and France respectively), where significant strategic activities are located (Exhibit 24).

Exhibit 24 - Europe's Marketing Services Sector WPP and Publicis Groupe

WPP is the world's largest advertising group. With its main management office in London, UK, it employs over 150,000 people in 2,400 offices in 107 countries. It owns a number of leading advertising agencies including Grey, Burson-Marsteller, Hill & Knowlton, JWT, Ogilvy Group, TNS and Young & Rubicam. WPP also controls a substantial portfolio of market research, PR, direct marketing, design and consultancy subsidiaries. WPP remains the world's biggest marketing services group with revenues of over EUR 20 billion in 2011.

Publicis Groupe is a French multinational advertising and communications company, headquartered in Paris, France. It is the world's third largest marketing services group. Publicis provides digital and traditional advertising, media services, and specialized agencies and marketing services to national and multinational clients. The company owns several full-service advertising groups that undertake a range of media activities: mobile and interactive online communication, television, magazines & newspapers, cinema and radio, outdoor. The company also offers direct marketing, public relations, design services, interactive communications, and events marketing. Its media services include media planning, media buying, and media sales. The company conducts its operations in over 200 cities in 104 countries.

Sources: The Huggard Consulting Group, Company Annual Accounts

Inward investment by non-European multi-nationals – geographically-concentrated “clusters” of suppliers, competitors, customers, and research institutions play a major role in developing and disseminating ideas and in enhancing the competitiveness of locally-based companies in global markets. They also enhance the attractiveness of markets for inward investment by other global companies. Europe's success in building an effective

cluster of world-class manufacturers of consumer goods, supported by globally competitive suppliers (including developers and providers of fragrance technologies) has triggered investment by US and Japanese multi-nationals in strategic assets in Europe. Examples of significant investors include Procter & Gamble, Coty, and Shiseido. These investments create additional economic benefits for Europeans, most notably well-paid, high-skilled jobs.

7 - THE SOCIO-ECONOMIC CONTRIBUTION OF FRAGRANCES – A GLOBAL PERSPECTIVE

7.1 - Background

While some may see Europe as the historic home of the fragrance industry, it is, indeed, a global industry. For billions of people around the world, fragrances are an essential part of life whereby their experiences are enriched.

A report similar to this has been prepared for the United States market which is roughly similar in size and composition as the EU market. The USA report was developed using an identical approach and provides the same level of detail and quantification as this report. It also illustrates the impacts with case studies reflecting the structural and social differences in American business and society.

In addition, a view of the socio-economic impact of fragrances was developed for the rest of the world (ROW). The ROW report was developed using an approach which included:

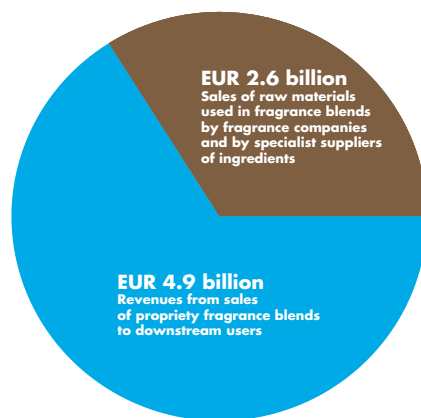
- A review, using published data and expert interviews, of the scale and structure of the fragrance value chain in each of the 5-6 largest markets for fragrance-dependent products, excluding Europe and the USA;
 - The identification of clusters of countries with similar value chain characteristics, anchoring each cluster around one of the 5-6 largest country markets; and,
 - The development of indicative estimates of economic impacts using reviews of major markets, data from clusters of similar markets, and detailed analytical models developed for the USA and Europe.
- Additional factors that were considered in the ROW analysis included:
- Shampoos – in some Asian markets, shampoos are highly fragranced. This provides a low cost alternative to fine fragrances for many women.
 - Soaps – for Asian consumers, fragrance technologies play different roles, depending upon levels of affluence. In the poorest countries, soap bars are used for personal and textile washing: fragrances provide masking benefits. As affluence levels rise, soap bars become more heavily fragranced, providing a low cost form of fine fragrance.
 - Laundry detergents – the role of fragrances for this application in Asia follows a similar path to that of soap bars: the role of fragrance technologies becomes more extensive as affluence increases, being used at higher affluence levels to articulate functional benefits as well as mask the smell of the ingredients.
 - Floor cleaners – in some Asian and Latin American markets, floor cleaners are used as a substitute for air care products. Alongside functional cleaning benefits, they provide comprehensive malodour control and meet emotional needs, such as the need to care for family and home.

7.2 - The Results – The Fragrance Industry

The annual world-wide sales of the fragrance industry are estimated to be approximately EUR 7.5 billion. Of this, two-thirds (EUR 4.9 billion) represents the revenues from sales of approximately 60-80,000 **proprietary fragrance blends** to downstream users. Proprietary blends are complete fragrances that are unique to individual brands and applications. The remaining output of the industry (EUR 2.6 billion) is accounted for by sales of **raw materials used in fragrance blends** (such as essential oils and aroma chemicals) by fragrance companies and by specialist suppliers of ingredients. Some of these revenues represent sales of raw materials to a small number of downstream users who continue to invest in in-house fragrance creation; others are the result of the trading of raw materials, produced by in-house business units, between fragrance companies to acquire speciality inputs.

On a geographic basis, nearly 75% of revenues from the supply of proprietary blends are obtained from sales in markets in the EU, USA, and Japan, with the remainder coming from developing markets.

Exhibit 25 - Annual World-Wide Sales of the Fragrance Industry: EUR 7.5 billion

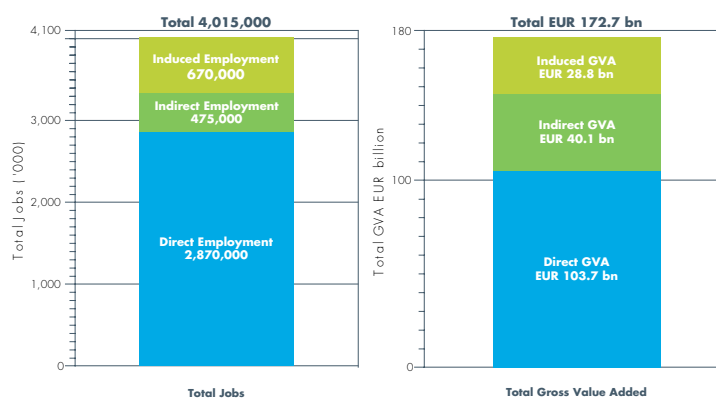


Source:

7.3 - The Results – The Global Impacts (Narrow Value Chain)

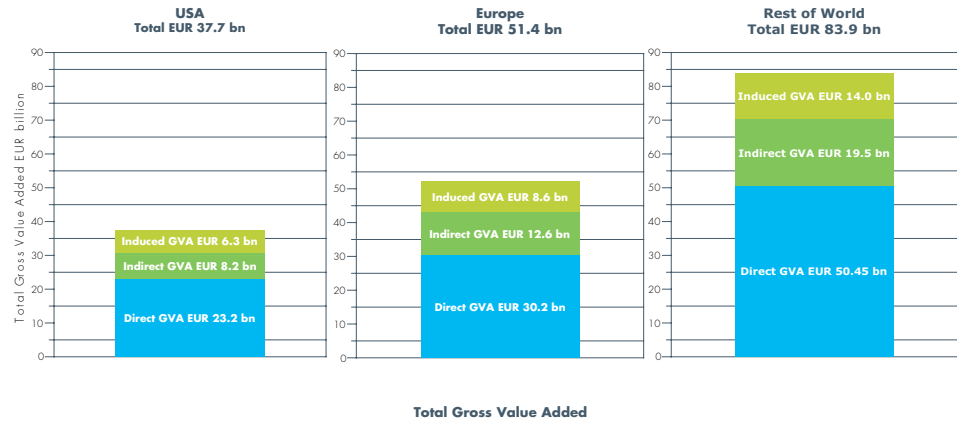
Taking the same valuation concepts as developed for the European study, data was developed for the global impacts of the fragrance industry. The “narrow value chain” highlights the distinctive economic contribution of fragrance technologies. It identifies “fragrance dependent” output, jobs, Gross Value Added (GVA), labour costs and labour taxes within the three stages of the value chain: innovation and production by the Fragrance industry; manufacture of products by the Fine Fragrance and Beauty, Personal Care, and Household Care industries (for end consumers and business-to-business customers); and the sale of products that make use of fragrances through a wide range of store and non-store retail outlets. Taken together, globally, the “narrow” value chain generates just over 4 million jobs and EUR 173 billion in GVA (Exhibit 26). The breakdown by region for the narrow value chain of GVA shows that the ROW is approximately equal to the combined value of the European Union and United States markets (Exhibit 27).

Exhibit 26 - Global “Narrow” Value Chain Jobs & Gross Value Added



Source: The Huggard Consulting Group (2012)

Exhibit 27 - Breakdown by Region Gross Value Added

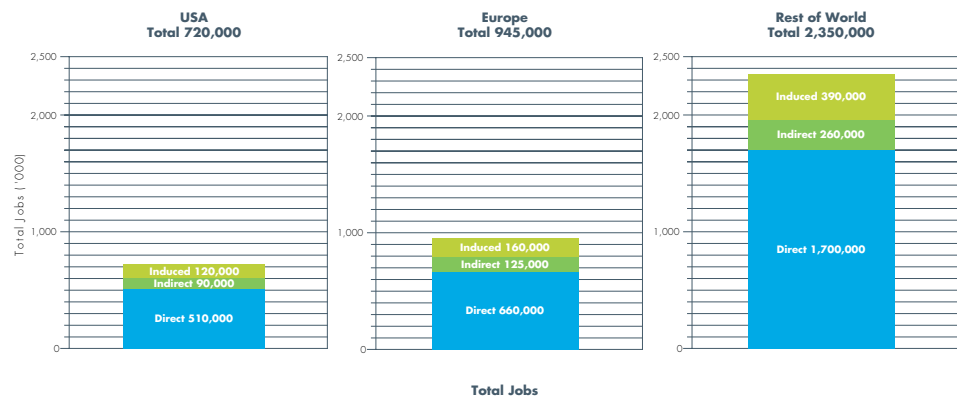


Source: The Huggard Consulting Group (2012)

Examining the global impact of the fragrance industry value chain for jobs (Exhibit 28) by region shows that the number of jobs generated in the rest of the world is approximately 50% greater than that of the

combined EU and USA markets, reflecting the different labour structures outside Europe and the United States.

Exhibit 28 - Breakdown by Region Jobs

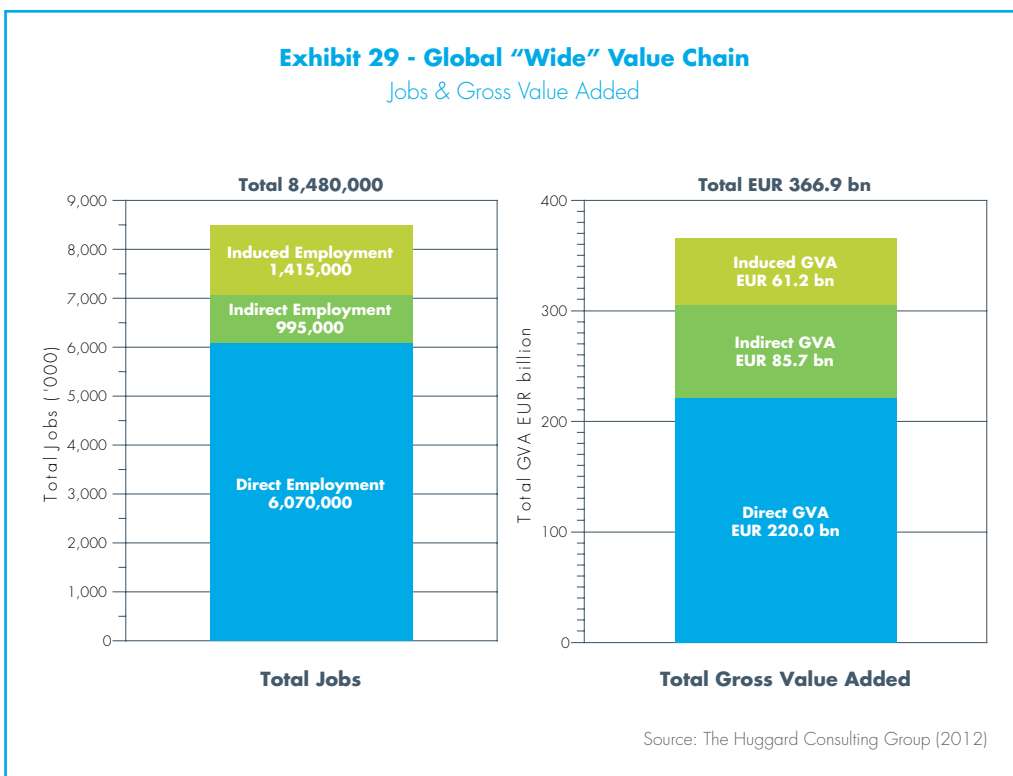


Source: The Huggard Consulting Group (2012)

7.4 - The Results – The Global Impacts (Wide Value Chain)

The wide value chain highlights the scale of global economic activity that involves products that use fragrance technologies. It provides an insight into the scale and nature of the “economic footprint” of a technology. For this group of products in the Fine Fragrance and Beauty, Personal Care, and Household Care industries, the wide value chain

encompasses output at each stage of activity including innovation and production of fragrances, manufacture of articles, and sale to end consumer and business-to-business customers, with associated impacts on GVA, jobs, employment costs, and taxes (labour and added value). These are illustrated in Exhibit 29.



8 - CONCLUSIONS

Innovative development and widespread use of fragrance technologies creates substantial social and economic benefits for Europeans. They improve quality of life and sustain significant economic benefits today. Moreover, through their impact on productivity growth and on Europe's global competitiveness, they provide an important basis for creating jobs and wealth in the future.

Through major investments in creativity and science, combined with a deep knowledge of customers and materials, the fragrance industry works with brand owners to create unique, innovative products that meet a wide range of emotional and functional needs for most Europeans, improving the quality of people's lives. As well as combating malodour, fragrances communicate complex ideas – creating mood, signalling cleanliness, freshness, or softness, alleviating stress, enhancing well-being, and triggering allure and attraction.

In turn, fragrance technologies create added value for brand owners and retailers by meeting a wider range of customer needs, explaining functional performance, segmenting markets, and creating new markets and premium products. These commercial benefits, and the manufacturing and retailing activity linked to them directly and indirectly, sustain significant numbers of jobs and contribute substantially to national wealth in Europe.

Investment by the fragrance industry in intangible assets in Europe provides a basis for future economic benefits as well. World-class fragrance technologies provide European consumer goods industries with a vital "engine of innovation", enhancing the attractiveness of Europe as a location for manufacturing activity and supporting the competitiveness of European companies

in global markets. Easy access to fragrance technologies also strengthens the competitiveness of consumer goods industries in Europe, strengthening the underlying drivers of productivity growth in a significant part of the European economy. Taken together, these factors should ensure that fragrance technologies, if properly understood by policy-makers, continue to play an important role in generating economic and social benefits for Europeans.

European policy-makers recognise that, at a time of constraints on public spending, major demographic change, and increasing globalisation, the creation of new jobs and the future of living standards depends upon creating the "framework conditions" within which innovation flourishes²⁰.

Until now, however, the role that fragrance technologies play in creating benefits for Europe and its citizens has not been fully recognised by policy-makers. In particular, the role that fragrances play as a platform technology, triggering innovation and economic gains in downstream user sectors, has been overlooked by decision-makers and opinion-formers.

For the future, the challenge facing policy-makers is to sustain a business environment that encourages further investment in innovation in fragrance technologies and in their use and dissemination by brand owners and retailers. Only by doing this will Europeans continue to be able to enjoy the emotional, functional, and economic benefits that fragrances deliver.

The Huggard Consulting Group
September 2012

²⁰See for example CEC 'Europe 2020 Flagship Initiative – Innovation Union' (Communication from the European Commission, SEC (2010) 1161)

APPENDIX A

IMPORTANCE OF FRAGRANCE TECHNOLOGIES – VALUATION METHODOLOGY

1 - VALUATION FACTORS

The valuation of the economic contribution of fragrance technologies in Europe is based on **the distinctive benefits that fragrance technologies create for end users and the economic value of those benefits**. This is known as the “narrow value chain” and reflects only part of the employment and output of the Manufacturer and Retail stages of the fragrance value chain.

Our estimates of the distinctive impact of fragrance technologies on the value of product category sales take into account a number of factors:

- Fragrance is only one source of benefit for end consumers of fine fragrances and beauty, household care products, and personal care products. Product functionality and brand image are also major sources of benefits for users. Any valuation concept must seek to identify the distinctive contribution of fragrance technologies, after recognising the potential role of these other sources of benefit for consumers.
- For consumer goods manufacturers, fragrance is only a very small proportion of the **material cost** of fine fragrance, household care, and personal care products. It ranges from between 2% and 10% of cost²¹. This is, however, not a good indicator of the contribution of fragrance technologies to the final value of a product category. This is determined by the “value proposition” created for end consumers and their willingness to pay for it. Cost of materials is not the same as willingness to pay for value. Fragrances are, in general, a source of value and not simply a cost of material.
- Fragrance technologies are predominantly used in fast moving consumer goods applications. These are products that consumers buy regularly throughout the year. They may buy a personal care product, for instance, ten or more times in a year. For such types of product, the overall value of sales and margins in a product category depends upon initial purchases by consumers and then, more importantly, on patterns of re-purchase. Whereas ‘image’ may play an important role in inducing initial sale, fragrance and functionality may be the principal determinants of re-purchase. Indeed, in some product categories, fragrance may be the primary reason for re-purchase, especially if it delivers unique emotional benefits or articulates an important functional claim. Overall, the role of fragrance in influencing the overall value of product categories is complex, and may be disproportionately important because of its impact on patterns of re-purchase.
- In a wider sense, the impact of fragrance technologies on the value of product categories differs between applications. For some applications, fragrance technologies deliver the primary benefits (such as malodour control). In other applications, fragrances increase consumer acceptance, because they mask the unpleasant smells of the ingredients used. Finally, there are applications where fragrances are combined with functional benefits to add value through either articulation of functional benefits (where this is difficult to experience directly, for instance) or by adding emotional dimensions to the functional experience or both.
- In many of the personal care and household care categories that make use of fragrance technologies,

²¹After taking account of other costs incurred by manufacturers of FMCG products and luxury goods as well as retail margins, fragrance ingredients represent, on average, only 1-2% of final selling price.

most competing products have achieved a high level of functional excellence, and customers have become used to this. There is, moreover, often little difference in functional performance between competing offers. Within this context, it is difficult for brand owners to sustain the value of product categories without innovation and differentiation. In many product categories, fragrance has become the principal mechanism for achieving these objectives. Fragrance is, therefore, becoming a more important source of benefits for customers, whilst the impact of functionality declines in relative terms.

- Brand image is an important source of benefits for end users. At its simplest it conveys messages of quality, consistency, and value. More sophisticated imagery focuses on lifestyles, social positioning, and other emotional factors. For fine fragrances, for instance, image plays an important role in triggering initial purchase. However, re-purchase is determined by fragrance: it delivers the proposition illuminated by the imagery. Fragrances interact with image. They, along with functionality, provide the experiential dimensions of the purchasing cycle either reinforcing or, if unsuccessful, undermining brand image.
- So-called “fragrance free” products have little consumer appeal. These are widely available but account for less than 5% of sales in most product categories. “Fragrance free” is, moreover, a misnomer and misleading. Such products all require fragrance technology to mask the unpleasant smell of ingredients.

2 - VALUATION METHODOLOGY

To identify the distinctive contribution of fragrance technologies to the overall economic values of Fine Fragrance and Beauty, Household Care, and Personal Care product applications, a multi-stage methodology was used:

Step One (Typology of Benefits) – in this stage, a typology of benefits created by fragrances for end consumers was established, using information obtained from interviews with fragrance industry experts and desk research. Specifically, five groups of benefits were identified:

- **Masking Benefits for Non-Beauty Applications**

– products included in this category are purchased and re-purchased by end consumers primarily for functional or emotional reasons that are not associated directly with fragrance technology. Applications included are, moreover, not associated with beauty or personal care. It includes applications such as floor polishes, stain removers, and automatic dishwasher detergents. Fragrances do, however, play an important role in building the value of these product categories because they mask the unpleasant smell of the ingredients used in these articles, increasing the volume and value of products purchased.

- **Masking Benefits for “Beauty” Applications**

– fragrance technologies play very little direct role in stimulating initial purchase and subsequent re-purchase. Instead, fragrance technologies, through their ability to mask the foul smell of ingredients, play an indirect role, increasing consumer acceptance and raising volume and values. Applications included in this valuation category are, however, used to enhance personal appearance or are applied to the human body. (Typical applications include hair colorants, face care, make-up, and sun care.) In view of this close contact with skin or hair, it is considered that the value of the masking benefit is higher because the negative impact of unpleasant smells on consumer acceptance is likely to be greater for such applications.

- **“Articulates the Benefit”** – for applications included in this valuation category, fragrance technologies play an important role in influencing re-purchase rates because they articulate to end users some of the primary functional benefits of the product, such as freshness, softness, caring, and cleanliness. At the same time, all of the applications offer strong functional characteristics. Examples of this type of application include shampoos, toilet soaps, laundry detergents, and surface cleaners. For these applications, fragrance technologies demonstrate the effectiveness of the product, reinforcing strong functional attributes.

Applications in this valuation category are, therefore, purchased and re-purchased for a range of reasons and fragrance technologies complement and define the functional performance of the product. Without fragrance technologies, however, consumers would be less aware of the performance of the product, limiting consumer satisfaction and eroding value added. Fragrances also provide masking benefits, further increasing consumer satisfaction.

- **“Articulates the Benefit” and Meets Wider Emotional Needs** – in this category fragrance technologies play three important roles; first, they mask the unpleasant smell of ingredients; second, they articulate important functional benefits; and finally, they meet wider emotional needs, such as creating mood or demonstrating caring or enhancing distinctiveness and allure. All of the applications also deliver important functional benefits to consumers. Fragrance technologies act alongside these to raise value added by satisfying a wider range of customer needs, as well as reducing obstacles to use and demonstrating effectiveness. Typical applications include shower gels, deodorants and body sprays, baby care, and fabric care.
- **Primary Functional or Emotional Benefit** – for a number of applications, fragrance technologies deliver the primary function or emotional benefit that determines rates of purchase and re-purchase. Indeed, these applications could not exist without fragrance technologies. For most of these applications, however, other parts of the marketing mix (such as the use of advertising,

sales promotion, and packaging to create image) stimulate part of the purchase decision. The main applications that fall into this category are air care products (air fresheners, aromatherapy, and scented candles) which deliver functional benefits and fine fragrances that deliver emotional benefits.

Step Two (Categorisation of Applications)

– in this next part of the valuation process, all fine fragrance and beauty, personal care and household care applications were allocated to one of the five parts of the typology of benefits. This was based on information obtained from confidential interviews with fragrance industry experts.

Step Three (Valuation of Impact of Fragrances)

– for each part of the typology of benefits, the proportion of the value of the application that is primarily determined by fragrance technologies was estimated. Estimates are based on the views of fragrance industry experts obtained through an interview programme; on confidential market research data undertaken by a number of fragrance companies; and, on the assessment of the project team. Part of the process involved identifying a series of “marker” products, for which market research and other forms of industry evidence was available, and assessing the relative contribution of fragrances to the overall value of the product application. Product applications reviewed include laundry detergents, shampoos, deodorants, household cleaners, body sprays, fabric softeners, air fresheners, scented candles and fine fragrances.

Using this methodology, the following estimates have been made (Exhibit 30):

Exhibit 30 - Valuation Categories

Typology of Benefits of Fragrance Technologies	% of Category Value Depending on Fragrance Technologies
“Masking Benefits” – Non Beauty Application	20%
“Masking Benefits” – Beauty Application	30%
“Articulates the Benefit”	40%
“Articulates the Benefit” and Meets Wider Emotional Needs	60%
Primary Functional or Emotional Benefit	80%

APPENDIX B

NARROW VALUE CHAIN – IMPACTS

1 - DIRECT IMPACTS

1.1 - Fragrance Industry

Total impacts: direct employment approximately 7,000 jobs; gross value added EUR 800 million; employment cost EUR 500 million; and, total labour taxes in excess of EUR 200 million. Total output of fragrance blends EUR 1,700 million.

1.2 - Manufacturing

Fragrance Technologies – Europe Narrow Value Chain Manufacturing Direct Impacts

	Fine Fragrances and Beauty	Personal Care	Household Care	Industrial & Institutional	Total Manufacturing Impacts
Output (EUR m)	14,700	9,100	7,900	2,300	34,000
Jobs – Employees ('000s)	59	32	26	13	130
Gross Value Added (EUR m)	5,300	2,800	2,400	900	11,400
Employment Cost (EUR m)	3,200	1,800	1,400	700	7,100
Labour Taxes (EUR m)	1,500	800	700	300	3,300

1.3 - Retail

Fragrance Technologies – Europe Narrow Value Chain Retail Direct Impacts

	Non-Specialist Retail Stores	Specialist Retail Stores	Non-Store Retailing	Total Retail Impacts
Output (EUR m)	27,900	26,400	2,900	57,200
Jobs – Employees ('000s)	160	360	5	525
Self-employed Businesses ('000s)	0	235	95	330
Gross Value Added (EUR m)	4,700	12,200	1,100	18,000
Employment Cost (EUR m)	3,200	7,400	200	10,800
Labour Taxes (EUR m)	1,100	2,700	100	3,900

NOTES: (1) Non-Specialist Stores includes Grocery, Mass Merchandisers, Department Stores, Pharmacies, Parapharmacies and Drug Stores
 (2) Specialist Retail Stores includes Beauty & Well-Being Specialists, Beauty Salons
 (3) Non-Store Retailing includes Electronic Shopping, Mail Order, and Direct Selling
 (4) Output excludes sales taxes

1.4 - Total Direct Impacts

Fragrance Technologies – Europe Narrow Value Chain Total Direct Impacts				
	Fragrance Industry	Manufacturing	Retail	Total Impacts
Jobs – Employees ('000s)	7	130	525	660
Self-employed Businesses ('000s)	0	0	330	330
Gross Value Added (EUR m)	800	11,400	18,000	30,200
Employment Cost (EUR m)	500	7,100	10,800	18,400
Labour Taxes (EUR m)	200	3,300	3,900	7,400
Taxes on Value Added (EUR m)				5,600

NOTES: (1) Total impacts may not add up to sum of columns due to rounding.

(2) Indicative estimate of taxes on value added based on direct GVA created in the Retail and Manufacturing parts of the fragrance value chain. Reflects weighted average tax rate for Europe.

2 - INDIRECT IMPACTS

2.1 - Total Indirect Impacts

Fragrance Technologies – Europe Narrow Value Chain Total Indirect Impacts				
	Fragrance Industry	Manufacturing	Retail	Total Impacts
Total Purchases from European Suppliers (EUR m)	600	19,900	6,500	27,000
Jobs – Employees ('000s)	3	90	30	125
Gross Value Added (EUR m)	280	9,500	2,800	12,600
Employment Cost (EUR m)	160	4,500	1,400	6,100
Labour Taxes (EUR m)	70	2,100	600	2,800

NOTES: (1) Retail – purchases of goods and services exclude goods bought for re-sale.

(2) Total impacts may not add up to sum of columns due to rounding.

2.2 - Analysis of Purchases of European Bought in Goods and Services

Fragrance Technologies – Europe Narrow Value Chain Indirect Impacts – Analysis of Purchases in Europe (EUR m)				
	Fragrance Industry	Manufacturing	Retail	Total Impacts
Raw materials & Packaging	240	8,900	400	9,500
Capital Expenditure	50	1,000	1,200	2,300
Business Services	310	10,000	4,900	15,200
Total European Bought-In Goods & Services	600	19,900	6,500	27,000

NOTES: (1) Total impacts may not add up to sum of columns due to rounding.

3 - TOTAL IMPACTS

3.1 - Employment

Fragrance Technologies – Europe Narrow Value Chain Total Impacts - Employment				
	Fragrance Industry	Manufacturing	Retail	Total Impacts
Direct ('000s)	7	130	525	660
Indirect ('000s)	3	90	30	125
Induced ('000s)	2	45	110	160
Total – Employees ('000s)	12	265	665	945
Self-Employed Businesses ('000s)	0	0	330	330

NOTES: (1) Induced Impacts – indicative basis, using conservative multiplier of 1.2 applied to sum of Direct and Indirect impacts
(2) Total impacts may not add up to sum of columns due to rounding.

3.2 - Gross Value Added

Fragrance Technologies – Europe Narrow Value Chain Total Impacts – Gross Value Added (GVA)				
	Fragrance Industry	Manufacturing	Retail	Total Impacts
Direct (EUR m)	800	11,400	18,000	30,200
Indirect (EUR m)	280	9,500	2,800	12,600
Induced (EUR m)	220	4,200	4,200	8,600
Total GVA (EUR m)	1,300	25,100	25,000	51,400

NOTES: (1) Induced Impacts – indicative basis, using conservative multiplier of 1.2 applied to sum of Direct and Indirect impacts
(2) Total impacts may not add up to sum of columns due to rounding.

APPENDIX C

WIDE VALUE CHAIN – IMPACTS

1 - DIRECT IMPACTS

1.1 - Fragrance Industry

Total impacts: direct employment approximately 7,000 jobs; gross value added EUR 800 million; employment cost EUR 500 million; and, total labour taxes in excess of EUR 200 million. Total output of fragrance blends EUR 1,700 million. (Results from the Fragrance industry are the same for both value chains.)

1.2 - Manufacturing

Fragrance Technologies – Europe Wide Value Chain Manufacturing Direct Impacts

	Fine Fragrances and Beauty	Personal Care	Household Care	Industrial & Institutional	Total Manufacturing Impacts
Output (EUR m)	32,700	21,100	18,000	6,500	78,300
Jobs – Employees ('000s)	130	75	60	35	300
Gross Value Added (EUR m)	11,800	6,800	5,400	2,500	26,500
Employment Cost (EUR m)	7,200	4,200	3,200	1,800	16,400
Labour Taxes (EUR m)	3,400	2,000	1,500	800	7,700

1.3 - Retail

Fragrance Technologies – Europe Wide Value Chain Retail Direct Impacts

	Non-Specialist Retail Stores	Specialist Retail Stores	Non-Store Retailing	Total Retail Impacts
Output (EUR m)	66,300	46,200	6,500	119,000
Jobs – Employees ('000s)	385	780	10	1,175
Self-employed Businesses ('000s)	0	650	210	860
Gross Value Added (EUR m)	11,400	26,000	2,400	39,800
Employment Cost (EUR m)	7,500	14,900	500	22,900
Labour Taxes (EUR m)	2,600	5,400	200	8,200

NOTES: (1) Non-Specialist Stores includes Grocery, Mass Merchandisers, Department Stores, Pharmacies and Drug Stores

(2) Specialist Retail Stores includes Beauty & Well-Being Specialists, Beauty Salons

(3) Non-Store Retailing includes Electronic Shopping, Mail Order, and Direct Selling

(4) Output excludes sales taxes

1.4 - Total Direct Impacts

Fragrance Technologies – Europe Wide Value Chain Total Direct Impacts				
	Fragrance Industry	Manufacturing	Retail	Total Impacts
Jobs – Employees ('000s)	7	300	1,175	1,480
Self-employed Businesses ('000s)	0	0	860	860
Gross Value Added (EUR m)	800	26,500	39,800	67,100
Employment Cost (EUR m)	500	16,400	22,900	39,800
Labour Taxes (EUR m)	200	7,700	8,200	16,100
Taxes on Value Added (EUR m)				12,600

NOTES: (1) Total impacts may not add up to sum of columns due to rounding.

(2) Indicative estimate of taxes on value added based on direct GVA created in the Retail and Manufacturing parts of the fragrance value chain. Reflects weighted average tax rate for Europe.

2 - INDIRECT IMPACTS

2.1 - Total Indirect Impacts

Fragrance Technologies – Europe Wide Value Chain Total Indirect Impacts				
	Fragrance Industry	Manufacturing	Retail	Total Impacts
Total Purchases from European Suppliers (EUR m)	600	45,600	12,600	58,800
Jobs – Employees ('000s)	3	205	60	270
Gross Value Added (EUR m)	280	21,900	5,500	27,700
Employment Cost (EUR m)	160	10,300	2,700	13,200
Labour Taxes (EUR m)	70	4,700	1,200	6,000

NOTES: (1) Retail – purchases of goods and services exclude goods bought for resale.

(2) Total impacts may not add up to sum of columns due to rounding.

2.2 - Analysis of Purchases of European Bought-in Goods and Services

Fragrance Technologies – Europe Wide Value Chain Indirect Impacts – Analysis of Purchases in Europe (EUR m)				
	Fragrance Industry	Manufacturing	Retail	Total Impacts
Raw materials & Packaging	240	20,400	700	21,300
Capital Expenditure	50	2,100	2,600	4,800
Business Services	310	23,100	9,300	32,700
Total European Bought-In Goods & Services	600	45,600	12,600	58,800

NOTES: (1) Total impacts may not add up to sum of columns due to rounding.

3 - TOTAL IMPACTS

3.1 - Employment

Fragrance Technologies – Europe Wide Value Chain Total Impacts - Employment				
	Fragrance Industry	Manufacturing	Retail	Total Impacts
Direct ('000s)	7	300	1,175	1,480
Indirect ('000s)	3	205	60	270
Induced ('000s)	2	100	250	350
Total – Employees ('000s)	12	605	1,485	2,100
Self-Employed Businesses ('000s)	0	0	860	860

NOTES: (1) Induced Impacts – indicative basis, using conservative multiplier of 1.2 applied to sum of Direct and Indirect impacts
(2) Total impacts may not add up to sum of columns due to rounding.

3.2 - Gross Value Added

Fragrance Technologies – Europe Wide Value Chain Total Impacts – Gross Value Added (GVA)				
	Fragrance Industry	Manufacturing	Retail	Total Impacts
Direct (EUR m)	800	26,500	39,800	67,100
Indirect (EUR m)	280	21,900	5,500	27,700
Induced (EUR m)	220	9,700	9,100	19,000
Total GVA (EUR m)	1,300	58,100	54,400	113,800

NOTES: (1) Induced Impacts – indicative basis, using conservative multiplier of 1.2 applied to sum of Direct and Indirect impacts
(2) Total impacts may not add up to sum of columns due to rounding.

AUTHORS' NOTE

The importance of an industry is a key determinant in how it is regulated and dealt with by politicians, policy-makers and society in general. Engagements around an industry are most beneficial when all parties are aware of its full significance.

Socio-Economic Analysis (SEA) focuses on identifying “public benefits”; the gains citizens and societies experience because of the production, distribution, or use of technologies, products, and materials. Such gains go beyond the private profits enjoyed by investors, often meeting wider social goals, such as living standards, employment, sustainability, social cohesion and well-being.

SEA also focuses on the contribution of companies or sectors to the “enabling conditions” that sustain a competitive economy, such as the development and diffusion of knowledge, the nurturing of human capital and support for entrepreneurship.

The authors of this report have been actively involved in SEA and regulatory impact analysis (RIA) for almost twenty years, beginning with successfully advocating for a requirement to carry out RIA being incorporated into the 1997 Treaty of Amsterdam. They have worked continuously to promote the provision of a more complete view of the role that economic activity plays in meeting the social and economic goals of citizens and societies. The team has produced numerous similar reports for a range of industries, particularly those involving platform technologies.

In addition to extensive research and analysis, authors carried approximately 50 interviews, most of them face-to-face, in the course of the study. We wish to thank those who gave unstintingly of their time.

The information, conclusions and views presented here reflect the findings of the authors.

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