torino economy

REPORT ON THE PROVINCE OF TORINO




2009

torinoeconomy

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Contents

Foreword

The recent law on the organisation of Chambers of Commerce has reasserted the importance of research and economic analysis by these privileged observers of local economy. With important task of studying and disseminating information on local production, culture and social fabric in mind, the Chamber of Commerce of Torino is publishing the fifth edition of "Torino Economy".
The book is a unique tool for studying the evolution of local entrepreneurial fabric and production specialisations in the Torino area and highlights the peculiarities of this area with respect to the rest of North-West of Italy.
In this context, in which local often leads the way for general trends, the Chamber promotes and conducts surveys on the various components of local economy and on their relationships, also by collaborating with other institutions, trade associations and local public and private research institutes.
"Torino Economy 2009" draws the picture of a province still tackling the recession, a province in which entrepreneurs can pick from the time-honoured capacity of bringing together tradition and innovation. This important potential for recovery is where local specialisations can mate with crucial changes on global level: from the future of mobility to green tech and new technologies applied to various production sectors.
Featuring interviews with several local economy leaders, the book is a direct, easy-to-read snapshot of our world for everyone according to their area of interest (institutions, national and foreign entrepreneurs and academics). I wish to thank everyone who provided data and their expertise to write this book, and in particular the experts who provided their special insights from their privileged vantage points.

THE CHAIRMAN
Alessandro Barberis

Introduction

The two years which have just gone by will be remembered as those of the worse economy recession of the last seventy years. The recession caused a high reduction of GDP in the main advanced economies but the first meek signs of revival were detected already during the summer of 2009. With all the necessary caution, we can say that the worst is over, although winds of uncertainty are still blowing across the European markets.

During the second half of 2009, indicators in the Torino area pointed to a slight improvement and the negative trend of industrial production started attenuating, returning to positive values during the first months of 2010. Data on Torino entrepreneurial dynamics indicate that the area held strong during the recession.

Repercussions mainly affected employment, with the unemployment rate in the province touching 8.3% (it was 5.6% in 2008) and with 27,800 more people looking for a job. This increase was much higher than that of Piemonte and of the nation as a whole. Unfortunately, the job situation is not expected to improve this year because recovery is still too weak to take back everyone who lost their jobs.

The area has a strong export vocation and was understandably greatly damaged by the international slump. Exports closed 2009 with a drop with respect to the previous year despite the end-of-year upturn.

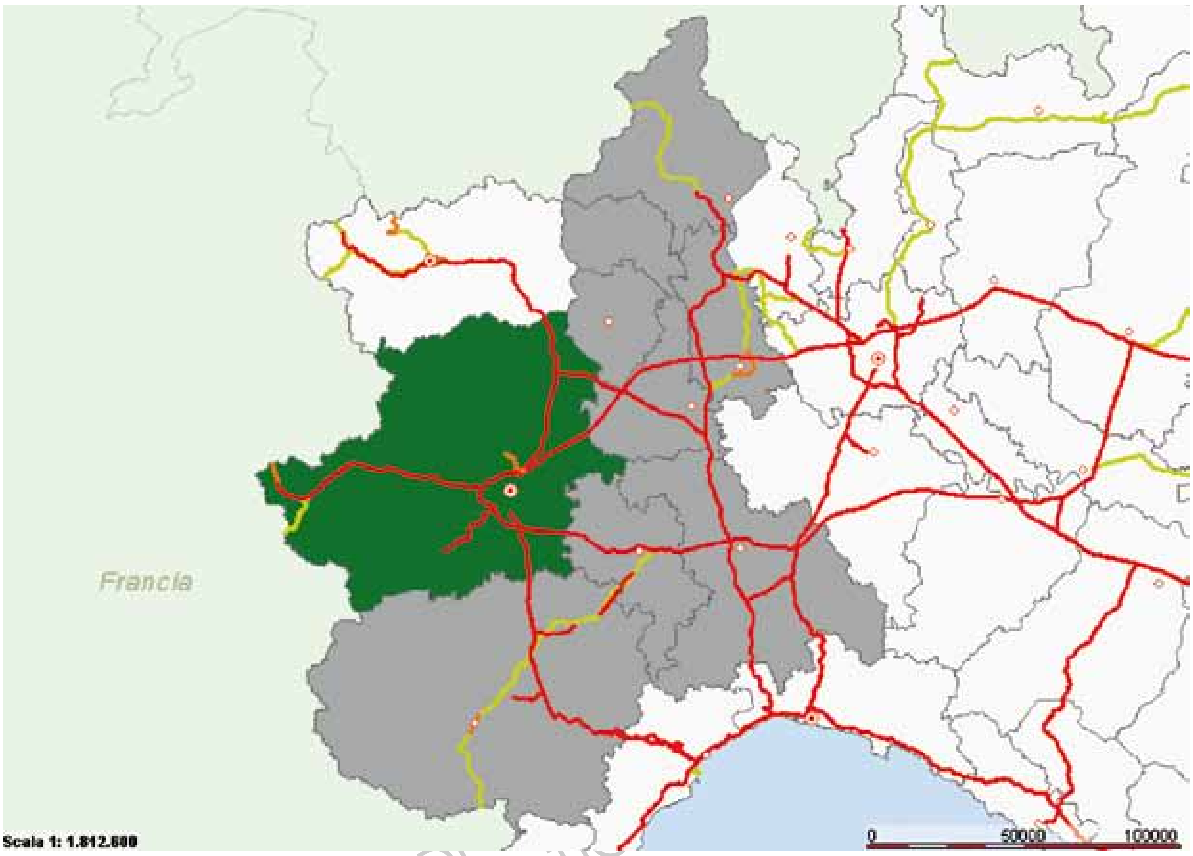
The province of Torino has the potential to overcome the recession and once again may lead dynamics on national level. Specialised traditions in production may be involved in many major changes which are currently underway, such as eco-friendly technologies and mobility.

It is worth stressing that in 2009 the Fiat group was a world-class player by purchasing Chrysler. This agreement is expected to allow the auto maker to develop the North American market and there are plans to double production in Italy. Important opportunities are waiting to be grasped.

The tourist vocation of Torino and province have increased over the past years and the last available data indicate an increase in arrivals and stays. After the Winter Olympics and Torino World Design Capital, the area will once again stage important events, such as the Ostension of the Holy Shroud (2010) and the celebrations for the 150 years of national unity (2011). The 2015 Expo, which will be held in Milan, will be a further opportunity of development because the two cities are even closer since the high-speed train line started operations at the end of 2009.

The area has therefore excellent changes of becoming a leader once again. The challenge is to exploit these opportunities by creating new enterprises but above all by helping those that held out during the recession.

Reference context



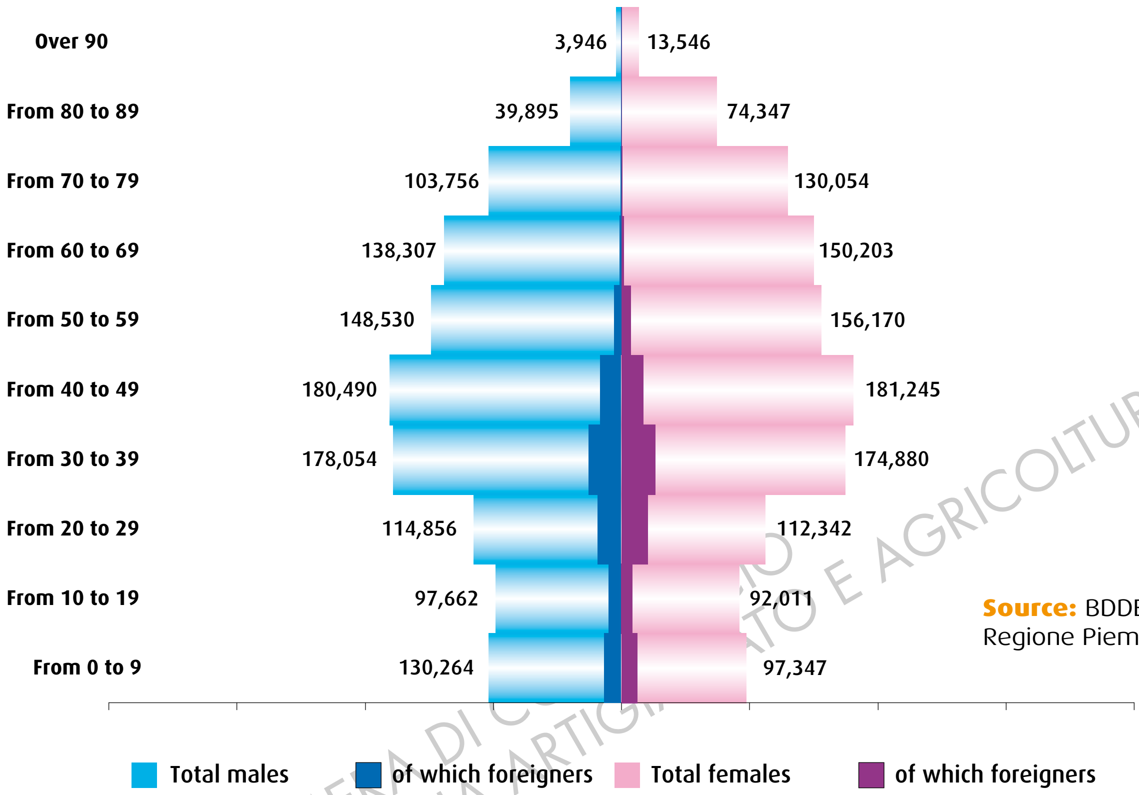
With an extension of 6,829 square kilometres, 315 towns and a population of 2.2 million - 4% of the Italian population - the Province of Torino in the geographic and productive heart of the Piemonte region, which is one of the largest in Italy.

The territory is equally distributed between hills and plains (covering 50% of the total). The remaining part is mountainous. The mountains were the stage of the “Torino 2006” Olympic Winter Games, possibly the most important event hosted in recent years, which conferred new international visibility to the area.

From 2006 to 2008, the resident population increased by 1.9%: this was mostly determined by the inflow of foreign residents, who in 2008 totalled 185,073 individuals (8.1% of the population). Romania is the first country of origin, with over half of all foreign residents in the province. Morocco, Albania and Peru follow. There were 21,163 births in the province of Torino in 2008, 17% of which in foreign families.

The population of the province of Torino has been slowly ageing for several years: as in the rest of the region, the average age of residents is much higher than the national average. The old-age index of the city of Torino is equal to 1.65, which means that there are nearly two elderly people for each youth.

Chart 1 Resident population in the province of Torino by gender and age 31/12/2008

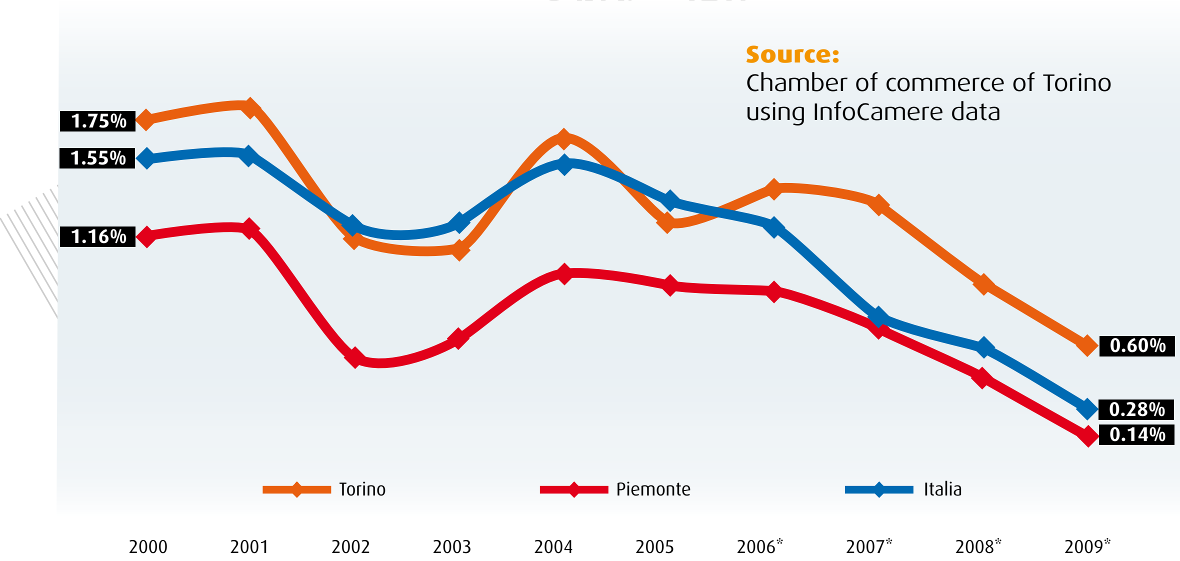


Source: BDDE, Regione Piemonte

Old and new enterprise patterns in the productive fabric of the province of Torino

2009 will unquestionably be remembered as the world recession year, but despite this, the production system of Torino at least in terms of business birth-death rate demonstrated to able to stand up to the crunch: the growth rate[1] dropped from +0.92% in 2008 to +0.60%, but was still much higher than the national (+0.28%) and the regional rates (+0.14%).

Chart 2 Growth rates of the entrepreneurial fabric.
Italy, Piemonte and the province of Torino compared



* net of court ordered closures

The entrepreneurial fabric of the province in such a difficult year saw a modest reduction in closures (15,473, -2.2%) but a drop in the number of newly opened companies (16,898), which was in all cases lower than the percentage of 2008 (-6.1% vs. -7.8%), indicating a lower entrepreneurship propensity. Despite a positive sign (+1.425), the balance between openings and closures was the lowest of the past ten years.

[1] The growth rate is calculated by comparing the difference between companies opened and closed in A period t and new companies at the beginning of the period (t-1).

Birth-date data indicate that the province of Torino was the most affected by the recession in the region. Comparing this data with that of other major Italian provinces for presence of enterprises (Milan, Rome, Naples) is interesting to evaluate similarities and differences in entrepreneurial fabric evolution: a general drop in growth occurred in all these areas over the past two years (2008-2009) to a variable extent.

The signs of recession were very evident in 2009, and indeed the entrepreneurial growth rates, although positive, were in some cases lower than the same rates of prior to 2008. The province of Torino at end of 2009 registered a development rate lower than that of the provinces of Milan (1.70%), Rome (1.56%) and Naples (0.94%).

The first signs of recovery appeared during the last quarter of 2009: although the growth rate in the province was lower than that of other analysed areas, with a value of 0.18%, the rate was comparable to that of the same period of 2007 (0.19%) and much better than 2008 (0.04%).

1.1 Birth-death ratio and entrepreneurial fabric numbers by sector

Nearly 237,000 enterprises were registered at the end of 2009 in the province of Torino, with a variation of 0.4% compared to 2008.

The change in 2009 occurred on various levels in the various sectors of the entrepreneurial system of the province. The major repercussions mainly felt by traditional sectors of the local economy, such as manufacturing and related services, were balanced by a positive diversification of economic activities, as demonstrated by the increase in some sectors (tourism, constructions).

What is more, as a consequence of the recession on families as well as businesses, the part of the entrepreneurial system of so-called “social care services”, which primarily offers public, social and care services to citizens, gained ground.

The manufacturing and mainly business-oriented services bore the brunt of the recession, also as the result a drop in international demand: -306 manufacturing enterprises (-1.1%) and -232 transport, storage and communication service enterprises (-2.6%). Trade (+0.4%) and farming (+0.2%) held, and this was particularly comforting following the decline of the previous year (-0.5% and -0.4%, respectively). Although minor, the positive trend of constructions (+1.2% compared to +3.1% of 2008) and of hotels and restaurants (+2.2%; +3,2% in 2008) was confirmed. Significant was the 3% growth the social care service sector (+370 enterprises).

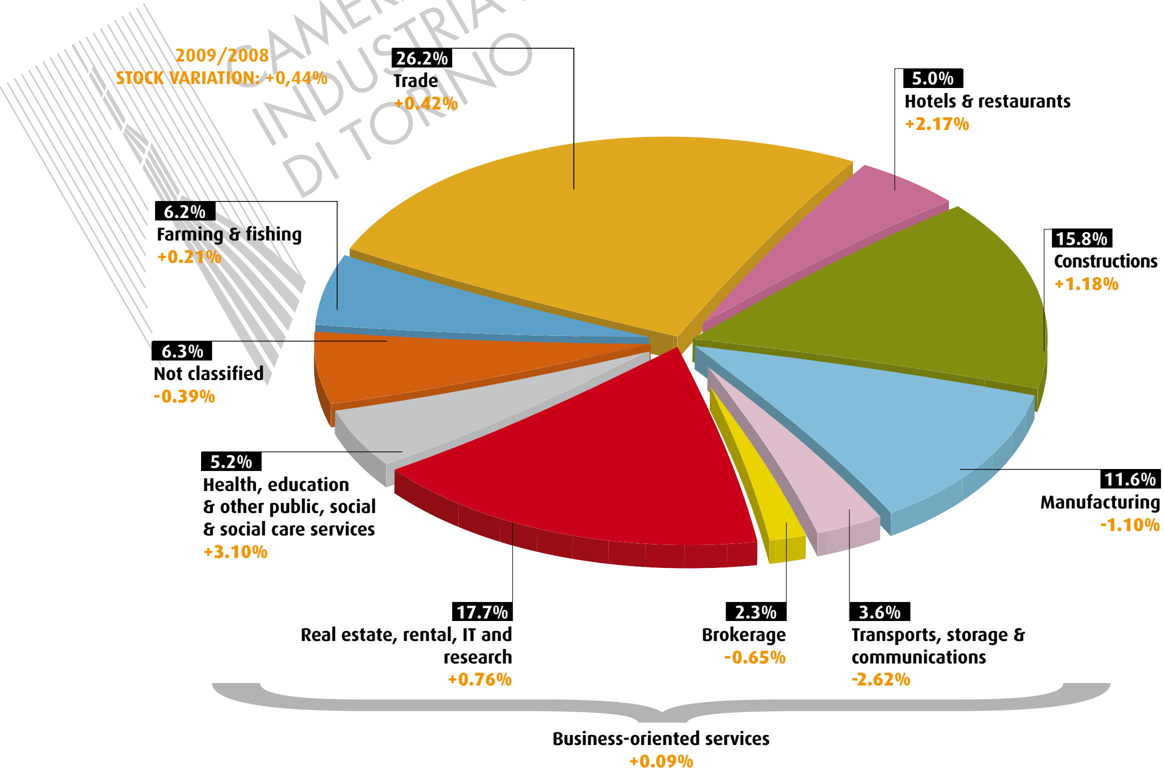
Table 1 Enterprises opened in the province of Torino by economic sector
Years 2008-2009

	REGISTERED ENTERPRISES ON 31 DEC. 2008	REGISTERED ENTERPRISES ON 31 DEC. 2009
FARMING & FISHING	14,573	14,604
MANUFACTURING	27,864	27,558
CONSTRUCTIONS	36,939	37,375
TRADE	61,904	62,161
TOURISM	11,630	11,882
SERVICES, INCLUDING:	56,033	56,081
TRANSPORTS, STORAGE & COMMUNICATIONS	*8,870*	*8,638*
BROKERING	*5,517*	*5,481*
REAL ESTATE, RENTAL, IT, RESEARCH	*41,646*	*41,962*
EDUCATION, HEALTH & OTHER PUBLIC, SOCIAL AND SOCIAL CARE SERVICES	11,947	12,317
Total (*)	235,912	236,942

Source: Chamber of commerce of Torino using InfoCamere data

(*) The total includes enterprises not included in the classification above.

Chart 3 Enterprises in the province of Torino by economic sector.
Weight % year 2009 and stock variations 2009/2008



Source: Chamber of commerce of Torino using InfoCamere data

With regards to designation dynamics, corporations play a major role in the local production fabric: in 2000 they were 12.6% of all registered enterprises, while in 2009 their weight increased to 15.5% (nearly 36,800), with an increase of 2.6% compared to the previous year.

The number of partnerships is nearly double that of corporations, with a slight stock decrease of 0.5%, while the number of proprietorships (over 50% of the local entrepreneurial fabric) remained substantially stabile throughout the recession year. Interestingly, referring to geographic areas, the number of corporations in the province of Torino is lower than the total of the North-West (24.1%) and of Italy as a whole (21.5%), while there are more proprietorships (29.4% vs. 26.2% of Piemonte and 19.5% of Italy). With respect to 2000, the percentage of the proprietorships on the entrepreneurial fabric decreased from 31.7% to 29.4% in 2009 (-7.2%), and this was higher than that of Piemonte (-3.2%) and Italy (-6.6%).

The percentage of proprietorships also decreased during the decade, but such a decrease was less marked in the province of Torino than in other areas, probably as a result of the development of foreign entrepreneurship.

I
II
III
IV
V
VI
VII
VIII
IX

Table 2 Enterprise designation % on 31 Dec. 2009 on geographic area totals

	PROVINCE OF TORINO	PIEMONTE	NORTH-WEST	ITALY
CORPORATIONS	15.5%	13.9%	24.1%	21.5%
PARTNERSHIPS	29.4%	26.2%	23.5%	19.5%
PROPRIETORSHIPS	53.0%	57.9%	49.7%	55.6%
OTHER DESIGNATIONS	2.1%	2.0%	2.6%	3.4%
TOTAL	100.0%	100.0%	100.0%	100.0%

Source: Chamber of commerce of Torino using InfoCamere data

Table 3 Registered enterprises by designation in Province of Torino
Years 2008-2009

	REGISTERED ENTERPRISES ON 31 DEC. 2008	REGISTERED ENTERPRISES ON 31 DEC. 2009
CORPORATIONS	35,870	36,787
PARTNERSHIPS	70,088	69,745
PROPRIETORSHIPS	125,195	125,497
OTHER DESIGNATIONS	4,759	4,913
TOTAL	235,912	236,942

Source: Chamber of commerce of Torino using InfoCamere data

1.2 Entrepreneurship dynamics by province sub-areas

A comparison of business dynamics in sub-areas of the province[2] is useful for analysing the enterprise birth-death rate in the province of Torino. The entrepreneurial dynamics of the sub-areas of the province generally decreased in 2009 with respect to 2008, when all areas experienced positive growth rates: four areas out of eight (West, Susa, South Torino and Po) closed the year with a negative growth rate. Only Sangone, Pinerolese and Canavese showed an improvement. More in general, the signs of entrepreneurial system shrinkage were more evident and widespread on sub-area level: during the year, South Torino and Susa has a higher enterprise death rate which was not compensated by a parallel enterprise birth rate, thus passing from a consolidated situation (low birth and death rates) to a reduction (high death rate, low birth rate); similarly, after the high turnover of 2008, entrepreneurial dynamics in the West declined. Canavese and Pinerolese were reconfirmed as consolidated areas, and Stura becomes one after the expansion in 2008 (high birth rates, low death rates). Equally, the entrepreneurial turnover remained high in the Sangone area in 2009. Finally, the city of Torino was the only area of the province in which the entrepreneurial fabric actually continued to expand.

Separating court-ordered closures from ordinary closures in the sub-areas of the province was not possible. The development rate of sub-areas and the entire province was thereof calculated without deducting court-ordered closures. The development rate of the province is thus equal to 0.41% instead of 0.60%.

[2] The groups considered here are defined on the basis of local agreements - with the addition of the city of Torino - with the following integrations: Canavese also includes the towns of Foglizzo, Torrazza Piemonte and Verolengo; Sangone also includes the towns of Coazze, Reano and Valgioie; South Torino also includes the towns of Arignano, Isolabella, Mombello di Torino, Montaldo Torinese and Moriondo Torinese.

Table 4 Birth-death rate of the province of Torino sub-areas Year 2009
Year 2009

	REGISTERED ON 31 DEC. 2009	WEIGHT %	OPE-NINGS	CLOSURES	BALANCE	BIRTH RATE	DEATH RATE	GROWTH RATE
CANAVESE	26,112	11.0%	1,780	1,643	137	6.9%	6.3%	0.53%
PO	7,169	3.0%	501	525	-24	7.0%	7.3%	-0.33%
STURA	13,434	5.7%	946	841	105	7.1%	6.3%	0.79%
WEST ZONE	17,912	7.6%	1,285	1,349	-64	7.2%	7.5%	-0.36%
SUSA	7,517	3.2%	528	537	-9	7.0%	7.1%	-0.12%
SANGONE	9,087	3.8%	712	626	86	7.9%	7.0%	0.96%
PINEROLO	15,762	6.7%	1,018	998	20	6.5%	6.4%	0.13%
SOUTH TORINO	25,101	10.6%	1,717	1,757	-40	6.8%	7.0%	-0.16%
TORINO CITY	114,848	48.5%	8,411	7,653	758	7.4%	6.7%	0.66%
PROV. OF TORINO	236,942	100.0%	16,898	15,929	969	7.2%	6.8%	0.41%

Source: Chamber of commerce of Torino using InfoCamere data

Table 5 Birth-death rate of the province of Torino sub-areas
Year 2008

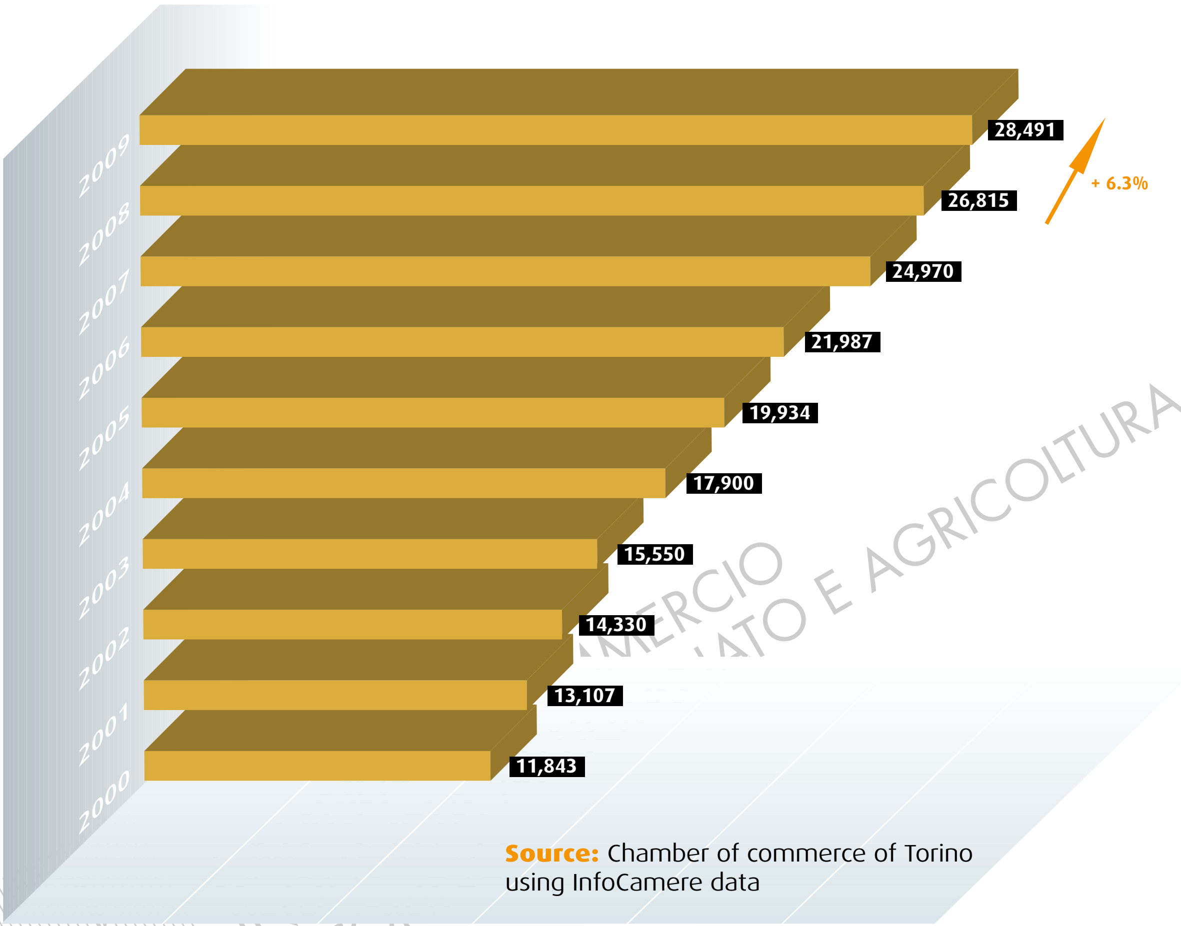
	REGISTERED ON 31 DEC. 2008	OPENINGS	CLOSURES	BALANCE	BIRTH RATE	DEATH RATE	GROWTH RATE
CANAVESE	25,915	1,852	1,781	71	7.2%	6.9%	0.28%
PO	7,183	534	523	11	7.5%	7.3%	0.15%
STURA	13,300	1,010	894	116	7.7%	6.8%	0.88%
WEST ZONE	17,951	1,506	1,392	114	8.4%	7.8%	0.64%
SUSA	7,519	548	516	32	7.3%	6.9%	0.43%
SANGONE	8,966	726	669	57	8.2%	7.5%	0.64%
PINEROLO	15,701	1,056	1,042	14	6.7%	6.7%	0.09%
SOUTH TORINO	25,144	1,846	1,658	188	7.4%	6.7%	0.76%
TORINO CITY	114,233	8,915	8,054	861	7.8%	7.1%	0.76%
PROV. OF TORINO	235,912	17,993	16,529	1,464	7.7%	7.1%	0.62%

Source: Chamber of commerce of Torino using InfoCamere data

1.3 Foreign entrepreneurs

At the end of 2009, there were 28,491 foreign entrepreneurs in the province of Torino (owners, partners, directors, other roles, both EU and Extra-EU) with an increase of 6.3% with respect to the previous year and of +141% with respect to 2000.

Chart 4 Foreign entrepreneurs in the province of Torino
Years 2000-2009



Source: Chamber of commerce of Torino using InfoCamere data

The biggest national group is Romania (22% of all foreign entrepreneurs), followed by Morocco (16.2%) and France (5.8%). China (5.4% of the total), Albania (3.9%) and Germany (3.6%) follow at a distance[3].

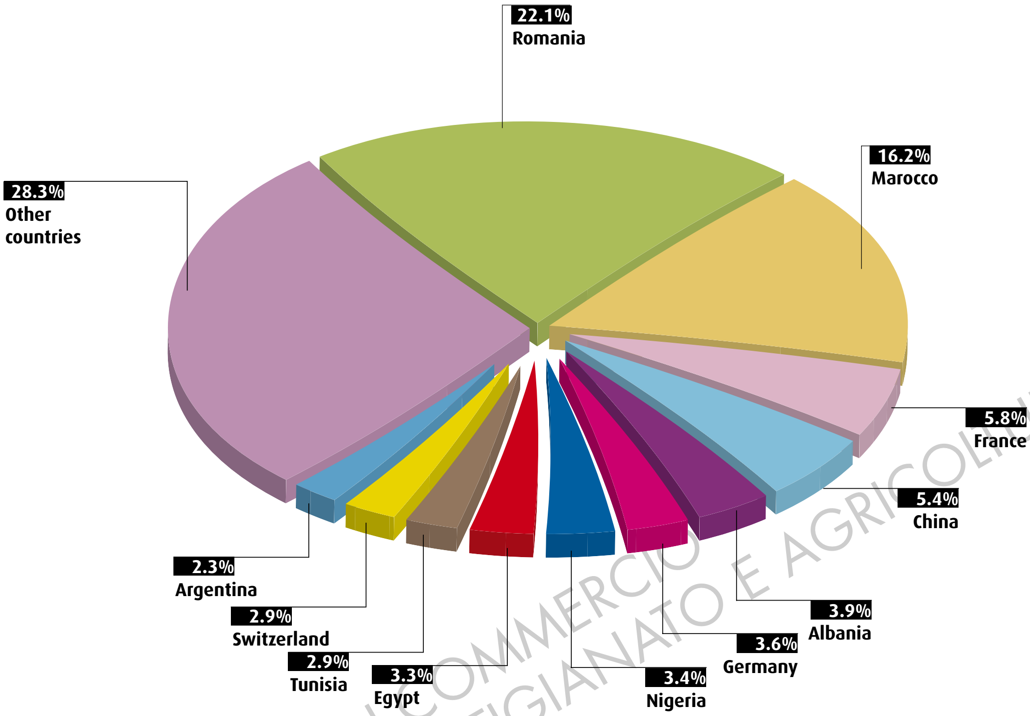
With regards to sector, first is trade (28.6%), closely followed by constructions (27.9%), Third is business-oriented services, which employs 15.7% of foreign entrepreneurs of the province of Torino, followed by manufacturing (10.3%), tourism (6.1%) and social care services (3.8%).

Some ethnical specialisations which characterise activities on the basis of the entrepreneurs' nation of origin are confirmed.

71.7% of Romanian entrepreneurs are specialised in constructions, while Africans are mainly employed in trade (59.4% of Moroccan entrepreneurs, 67% of the Nigerian and remarkably 85.9% of the Senegalese). Romanian positions increased more in tourism (+28.3%), trade (+22.7%) and social care services (+18.3%) with respect to the end of 2008. Moroccan entrepreneurship increased, instead, in the social care services sector (+42.9%), in trade (+10%) and in constructions (+8.4%).

[3] These statistics refer to the place of the birth of the entrepreneurs.

Chart 5 Foreign entrepreneurs by nationality
Year 2009



Source: Chamber of commerce of Torino using InfoCamere data

JOURNEYS IN FOOD, FOOD OF JOURNEYS. THE UNDERTAKINGS OF IMMIGRANTS ALONG THE FOOD SUPPLY CHAIN

Food, and catering in general, has always been a typical area of business for immigrants. The third report of the Chamber of Commerce of Torino, conducted with the collaboration of Fieri - International and European Forum on Immigration Reach, entirely devoted to this topic was entitled "I viaggi del cibo, il cibo dei viaggi. Le iniziative economiche degli immigrati nella filiera alimentare" (*Journeys in Food, Food of Journeys The Undertakings of Immigrants along the Food Supply Chain*).

In line with past editions, the research published in 2009 provides a detailed analysis of foreign entrepreneurship in the province of Torino, devoting particular attention to the undertakings of immigrants in the main areas of the food supply chain: production, trade and catering. The usual statistics, which provide a snapshot of foreign entrepreneurship in the province of Torino and analyse its evolution from the end of the 1990s to 2008, are accompanied by an in-depth descriptions, interviews and comments by privileged observers on the *modus operandi* of the three nationalities - Chinese, Moroccan and Egyptian - which are most active in the "ethnic" food sector.

Proprietorships are still the designation of choice for foreign entrepreneurs and on the rise (+10.6% in 2008 with respect to 2007). Of the over 15 thousand foreign proprietorships (2008), the report detract entrepreneurs born the European Union (15 member countries), those born in other major industrialised countries, and those born in Argentina, Brazil and Venezuela, which were the destinations of large Italian emigration flows during the 20th century. Consequently, the number of foreign proprietorships was equal to 13,924. Of these, nearly 5% work along the food supply chain and nearly all owners come from only three countries of origin: 30.3% from Morocco, 22.3% from China, and 17.8% from Egypt.

Delicatessens and Catering

Foreign proprietorships in the province of Torino in this sector account for approximately 12% of the total, divided between Egyptians (35.4%) and Moroccans (31.9%). Businesses are mostly kebab places and delicatessens serving various traditional dishes in addition to the famous Turkish sandwich, all of which are characterised by low price, high territorial coverage and low culinary quality. In the Moroccan case, restaurants serving popular traditional dishes are found in addition to delicatessens and kebab places. Catering remains in all cases a Chinese speciality, with nearly 70% of foreign owners of this nationality.

Trade

Trade as a whole employs 37.3% of all foreign proprietorships. In this sector, grocery amounts to little more than 4%; although food sales are still lower than 2%, since 1997 it is the sector which has experienced the highest growth (+342%). Nearly half of all foreign proprietorships are owned by a person from Morocco (49.1%) working on street markets (both fixed and itinerant): Moroccans total 36% of foreign proprietorships in the first case and over 60% in the second. Egyptians and Chinese are the third and fifth nationality, respectively, amounting to 5.7% and 3.3%: second and fourth are Romanians (17.9%) and Tunisians (5.2%). Moroccans shops are mainly bazaars/butcher shops and groceries, selling everyday products mainly from Morocco and *halal* meat (literally "lawful", i.e. butchered according to the requirements of Islam); bazaars sell the rich variety of Moroccan cuisine products and a wide selection of products and ingredients. Chinese mainly own small- and medium-sized supermarkets selling typical Asiatic food products, but also ingredients and food from South America, Africa, North Africa, etc.

Three Entrepreneurial Strategies

Foreign entrepreneurs are "socially competent" and active: they are creative subjects in consumer processes. The study of businesses managed by immigrants in the food sector points to the fact that entrepreneurial strategies are the result of various issues in balance between identity and undertaking. Three in particular are the main strategies identified for the businesses studied here: tradition, hybridisation and mimesis. Each implies a given collocation on the market with specific identity, cultural and religious implications.

Tradition. These businesses sell culturally connotated products, otherwise not procurable in Italy, to fellow countrymen and people of other nationalities. Products and food here perform the cultural function of reproducing, preserving and re-negotiating identity. This is the case of small Moroccan restaurants, which serve popular cuisine, and butchers/bazaars opened above all in quarters with a high concentration of fellow countrymen, who are the main customers of these businesses.

Hybridisation. This refers to businesses which focus on fusion of products, flavours, tastes, perfumes, symbols and culture of the country of origin with those of the Italian culinary tradition. A typical example is that of kebab places, which increasingly more frequently also serve traditional Italian products (pizza first and foremost), alongside Mediterranean traditional specialties spanning from Morocco to Greece through Egypt, Lebanon, and Turkey: *couscous*, *tajini*, *felafel*, *babaganoush*, *humus*, *kofta*, *moussaka* and Greek salad are very often found next to the famous doner kebab roll. A similar strategy is also adopted by Chinese restaurants, which commonly serve a tamer cuisine, more suited to Italian tastes than faithful to Mandarin tradition.

Mimesis. This tactic is adopted by many Chinese restaurants that have restyled and diversified their venues converting them into sushi bars and Japanese restaurants. For many entrepreneurs, this was a safe refuge in a market saturated by the high number of Chinese restaurants. An abrupt fall in demand, sparked in particular by the recurrent Asiatic flu alarms, such as SARS or bird flu, contributed to the crisis.

Relationships with Local Economy

Observed under the light of economic relationships and supply circuits, the businesses of immigrants in the food sector are more integrated in the national and local economy than in international supply chains. Regulations and checks on imported goods have specifically determined this aspect, spurring restaurant managers and shopkeepers to buy in Italy or organise themselves to produce locally. The survey thus indicated that Chinese restaurants mainly buy from wholesalers in the area surrounding Torino while they turn to importers in Milan and Brescia for more typically Chinese products. The same applies to kebab places, which buy most meat rolls from two importers in Torino, and for Moroccan restaurants, which buy most of their ingredients from local bazaars. In general, immigrant food sector operators boost local economy by buying most of the ingredients they process in the area. They do not form a parallel, separate, economy opposed to mainstream: they instead tend to compete with other businesses working in the same sector and oriented towards the same market.

Elements of Innovation

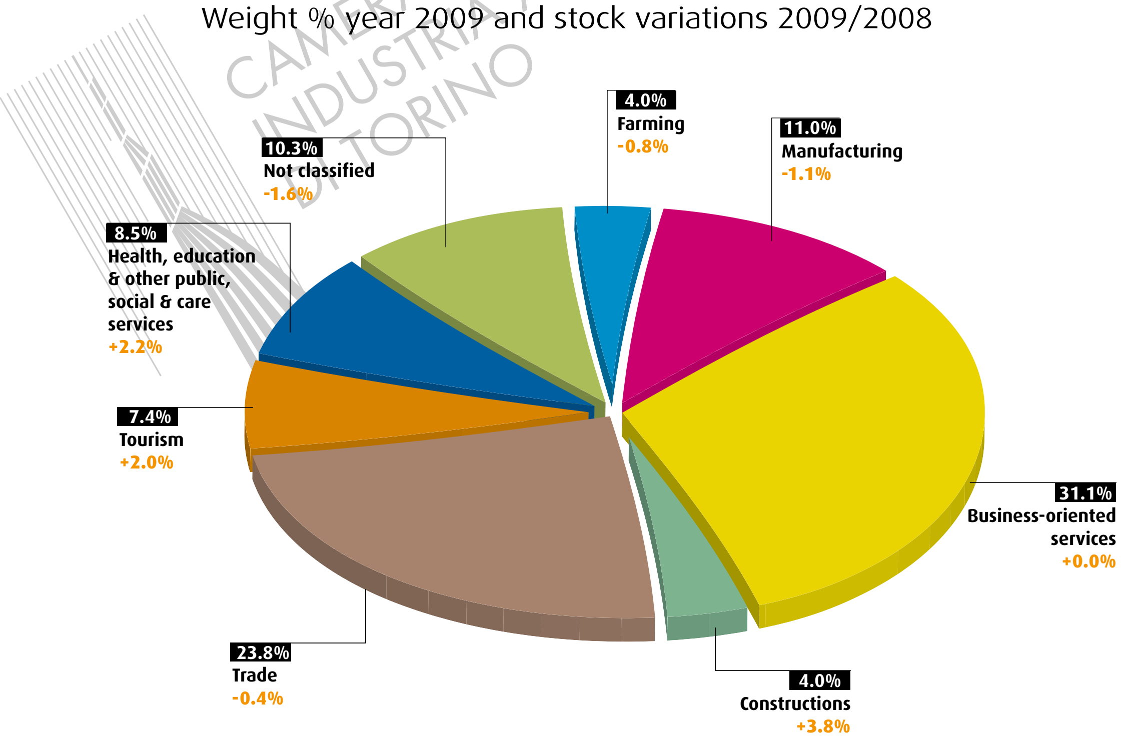
There are interesting cases of food sector process innovation, specifically related to the introduction of cultivations typical of the country of origin in Piemonte. A first example is that of mint

and herbs that a Moroccan businessman started growing locally to cut the costs and risks of import. Mint is grown and sold in butcher shops and bazaars, as well as out of shopping bags on the fringes of the market in Piazza della Repubblica. A second example is that of Chinese farmers who started growing typical Chinese vegetables by importing seeds from China. These products are sold directly at the farmer's market in Porta Palazzo.
These examples are indicative of the efforts made by new immigrant entrepreneurs to introduce new goods, production methods and market opportunities, to identify new sources of procurement and to develop new forms of organisation.

1.4 Women entrepreneurs in the province of Torino

At the end of 2009, there were 120,440 women entrepreneurs[4] in the province of Torino, 53% of all those in Piemonte and nearly 5% of the nation as a whole. With a variation of 0.1% compared to 2008, the number of women entrepreneurs in the province of Torino was virtually stationary, with a +5.3% increase with respect to 2000. 31% operate in the sector of business-oriented service, 23.8% in trade, 11% in manufacturing and 8.5% in social care services.

Chart 6 Women entrepreneurs in the province of Torino by economic sector
Weight % year 2009 and stock variations 2009/2008



Source: Chamber of commerce of Torino using InfoCamere data

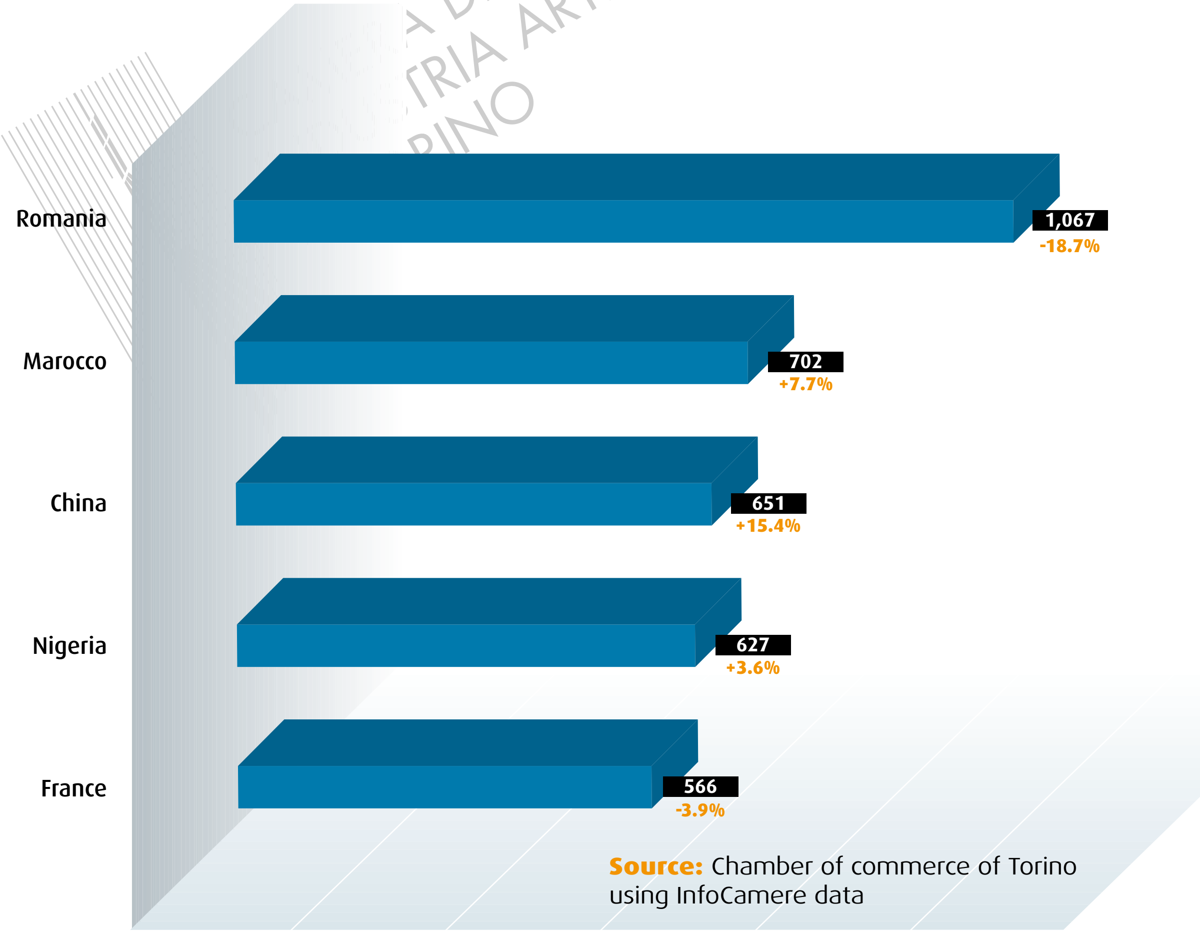
[4] The number is determined as the number of female individuals operating as entrepreneurs, with the limitation that one individual may be counted several times if she covers various roles in a company (e.g. owner, partner and manager).

With respect to 2008, the number of women entrepreneurs increased mainly in constructions (+3.8%), social care services (+2.2%) and tourism (+2%). The highest shrinkage was in manufacturing (-1.1%) followed by farming (-0.8%) and trade (-0.4%).

With regards to denomination, 55% of all women entrepreneurs work in partnerships, more than one fourth in proprietorships and approximately 15% in corporations.

Women entrepreneurs are generally aged from 30 to 49 (48% of the total) and are administrators (40%). Young women entrepreneurs, i.e. younger than 30, are still limited in number (6% of the total), while a remarkable 46% is older than 50. With regards to the place of birth of women entrepreneurs in the province of Torino at end of 2009, foreign women were 6.2% of the total, with a +6.8% increase with respect to 2008 while the number of Italian-born women entrepreneurs decreased (-0.3%). The first country of origin of foreign women entrepreneurs is once again Romania (14.3% of the total), followed by Morocco (9.4%) and China (8.7%). Romanians increased by 18.7% with regards to the previous year, but compared with 2000, the highest increase was that of Moroccan women entrepreneurs (+1.032%).

Chart 7 First five country of origin of women entrepreneurs
Absolute values year 2009 and Var.% 09/08



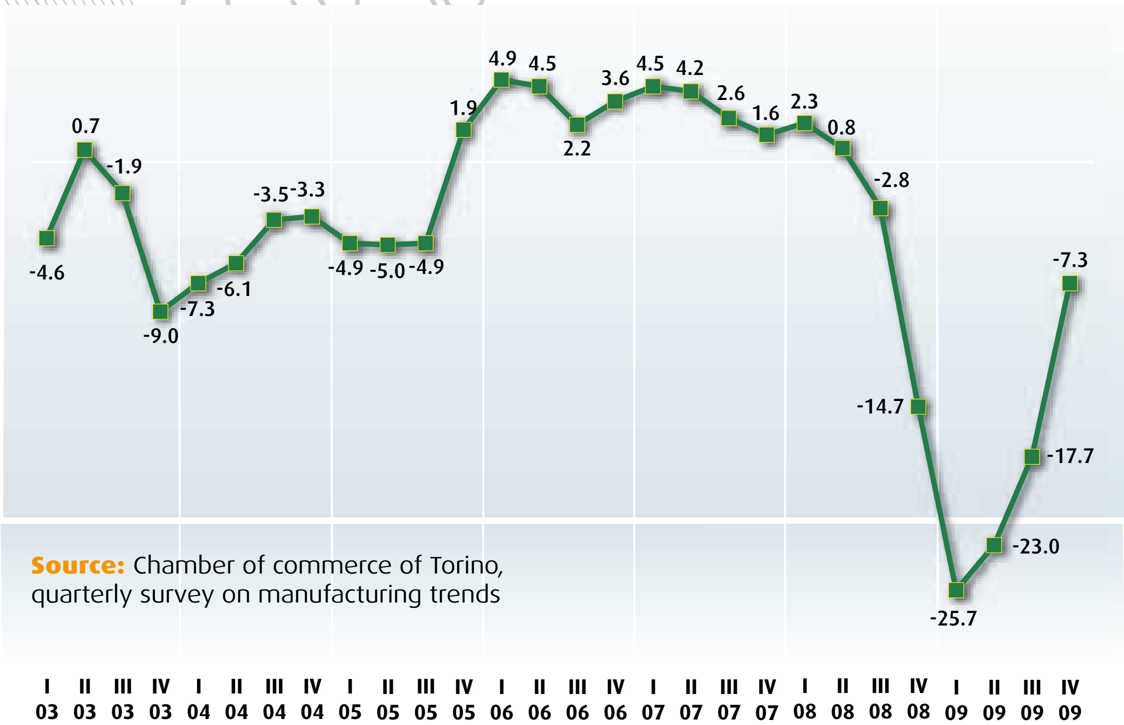
Source: Chamber of commerce of Torino using InfoCamere data

Foreign women entrepreneurs are younger than women entrepreneurs as a whole: a remarkable 62.6% of women entrepreneurs are aged from 30 to 49, and approximately 13% is younger than 30.
The main sector of activity is trade (32.8%), followed by business-oriented services (22.2%) and tourism (10.9%).
With respect to 2008, the presence of foreign women entrepreneurs increased above all in social care services (+15%), constructions (+13.2%) and tourism (+10.3%).

1.5 Trends in manufacturing

The shockwaves of the recession which hit the financial markets in Autumn 2008 greatly affected real economy leading to the worst recession - particularly during the first part of 2009 - since World War II. Industrial production collapsed and thousands of jobs were lost. However, the first timid signs of an upturn appeared in the summer of 2009, although they were too weak to prevent even more terminations: unemployment could well become the new emergency of 2010.
The usual survey on the situation of economy conducted by the Chamber of Commerce of Torino showed that industrial production declined dramatically between the end of 2008 and the first months of 2009, manifesting the worse negative variations (with respect to the same quarter of the previous year) since 2000.

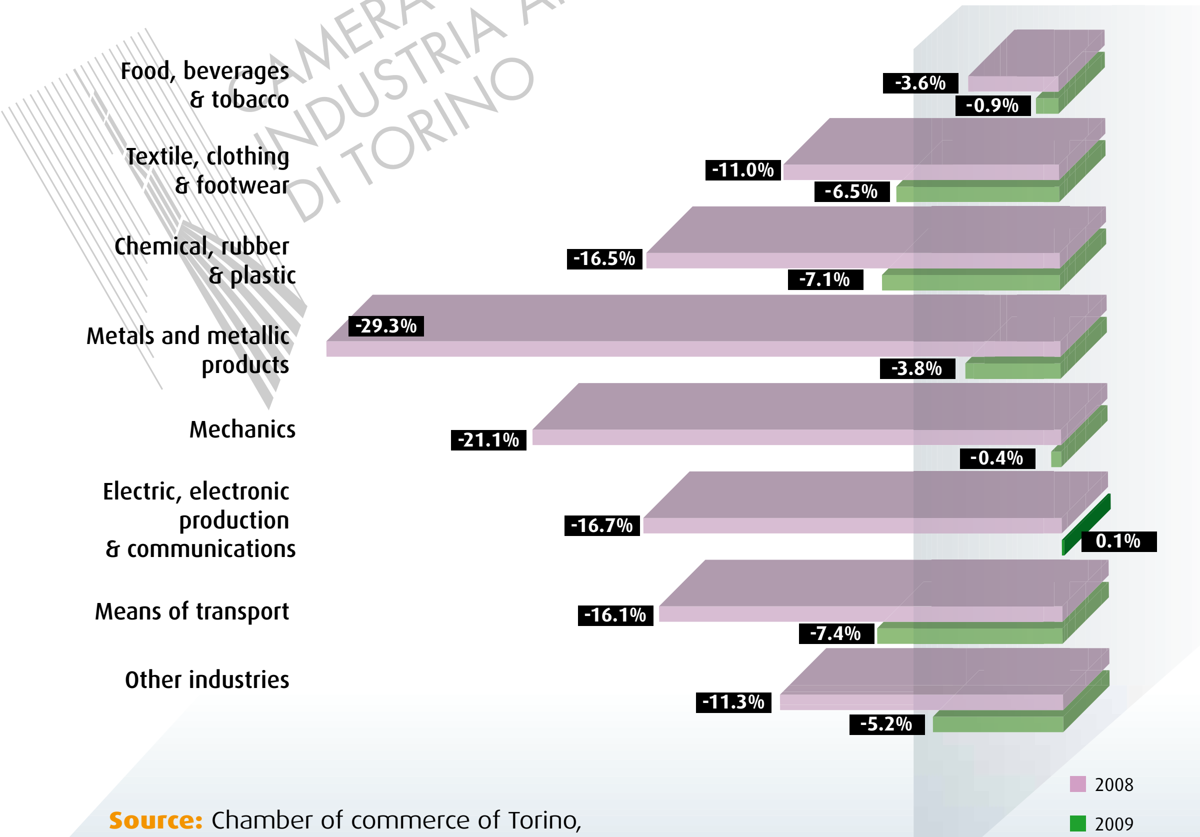
Chart 8 Industrial production in the Torino area
Var. % with respect to the same quarter of the previous year



Source: Chamber of commerce of Torino, quarterly survey on manufacturing trends

Starting from the second quarter 2009, the negative trend gradually attenuated and during the last quarter of the year registered -7.3%, in line with regional data (-6% with respect to the corresponding period of 2008); performance in the region as a whole was better than national (-17.4%).
On **sector level**, all areas experienced negative trends in 2009. The less affected was **food and beverages** (yearly average of -3.6%), thus confirming the countercyclical nature of the sector.
Means of transport, as a consequence of the bad auto industry crisis, registered a large-scale drop during the first months of the year. The first signs of revival (also as a result of government incentives) came during the last quarter of the year. The trend improved as a consequence and production returned to positive (+11.2% with respect to the corresponding period of 2008, corresponding to a yearly average variation of -16.1%). A similar trend was followed by the chemical, rubber and plastic industry (+5% in the September-December period with respect to the same period of the previous year, meaning an average yearly reduction of -16.5%) and by the textiles and clothing industry (+4.4% and -11%). The two industrial sectors experiencing the most difficulty were instead metal products (average yearly variation of -29.3%) and mechanics (-21.1%).

Chart 9 Industrial production trends in the province of Torino by sectors



Source: Chamber of commerce of Torino, quarterly survey on the situation of manufacturing

Turning now to trends in industrial production in terms of size, the number of companies with from 10 to 49 employees declined the most (average -19.6%), while the lowest reduction was that of companies in the over 250 employees range (-17%). Despite these comforting results, forecasts for the first months of 2010 are proof of the caution practised by local entrepreneurs: 43% of all interviewees declared that they expected industrial production to remain stationary and 32% that it would decrease; only 25% said they expected an increase during the first months of the current year. 58% answered that industrial production would remain unchanged, while expectations concerning the trend of demand were slightly peachier: 32% expected foreign demand to increase, while 44% said that they expected domestic demand to remain stationary and 23% said that the expected it would increase during the first semester of 2010.

Table 6 Forecasts for the January-June semester 2010

	DIMINUZIONE	STAZIONARIETÀ	AUMENTO	SALDO
PRODUCTION	32%	43%	25%	-7%
EMPLOYMENT	37%	58%	5%	-32%
DOMESTIC ORDERS	33%	44%	23%	-10%
FOREIGN ORDERS	28%	40%	32%	4%
SALES PRICES	29%	62%	9%	-20%

Source: Chamber of commerce of Torino, survey on the situation of manufacturing

1.6 Trends in of cooperatives

For over one year, the survey on the trend of cooperatives in the province of Torino, conducted by the Chamber of Commerce with the collaboration of the *Osservatorio sull'economia civile (Civil Economy Observatory)* focused on an area of entrepreneurship that employs approximately 8,800 of which 83.4% working partners. The survey investigated the **turnover** of cooperatives, based on declared revenue increase and decrease balances[5], with respect to the same period of the previous year and respect to the quarter prior to that of the survey.

During 2009, the trend with respect to the quarter prior to the survey was alternating: after the first and second quarters, during which declared revenue increases and decreases were negative (-20,3% and -15%, respectively), the end of 2009 saw a recovery in the cooperative system of the province. The variation was +3.5%, lower than that of the second quarter of 2009, period in which the declared increase and decrease declaration balance was equal to +7.7%. Trend analysis with respect to the same period of the previous year points to increasing hardships. The difficult

[5] Percentages calculated on the basis of information provided by who actually answered the question.

economic situation which has been affecting enterprises in the province of Torino for over one year caused a negative balance between declared increase or decrease of revenue with respect to the same period of the previous year. At the end of 2009, the balance was -11%, a minor upturn with respect to the beginning of the year, but still very negative.

With regards to **revenue forecasts for the first semester** of 2010, 20.6% of the surveyed co-ops expected business to decrease, to the extent that the balance between declared increases and decreases is equal to -1.1%. On sector level, the most pessimistic forecasts were expressed for tourism (-50%), constructions (-25%), trade (-20%) and manufacturing (-18%). On the contrary, expectations were favourable for social care services (+15.2%). On trend level, the need for credit increased throughout 2009 and was estimated in the range from +1% to +10% by one third of the interviewees. The increased need was transversal across nearly all business sectors.

Concurrently, nearly 18% of cooperatives that answered the survey in 2009 declared that they had problems of obtaining credit. The greatest obstacles were experienced by enterprises in the business-oriented services, social care services and constructions sectors, in which increases in declared difficulty to obtain credit were higher than the declared decreases in all the surveyed quarters.

In 2009 nearly 40% of the surveyed co-ops made investments, mainly for buying equipment, refurbishing premises and training.

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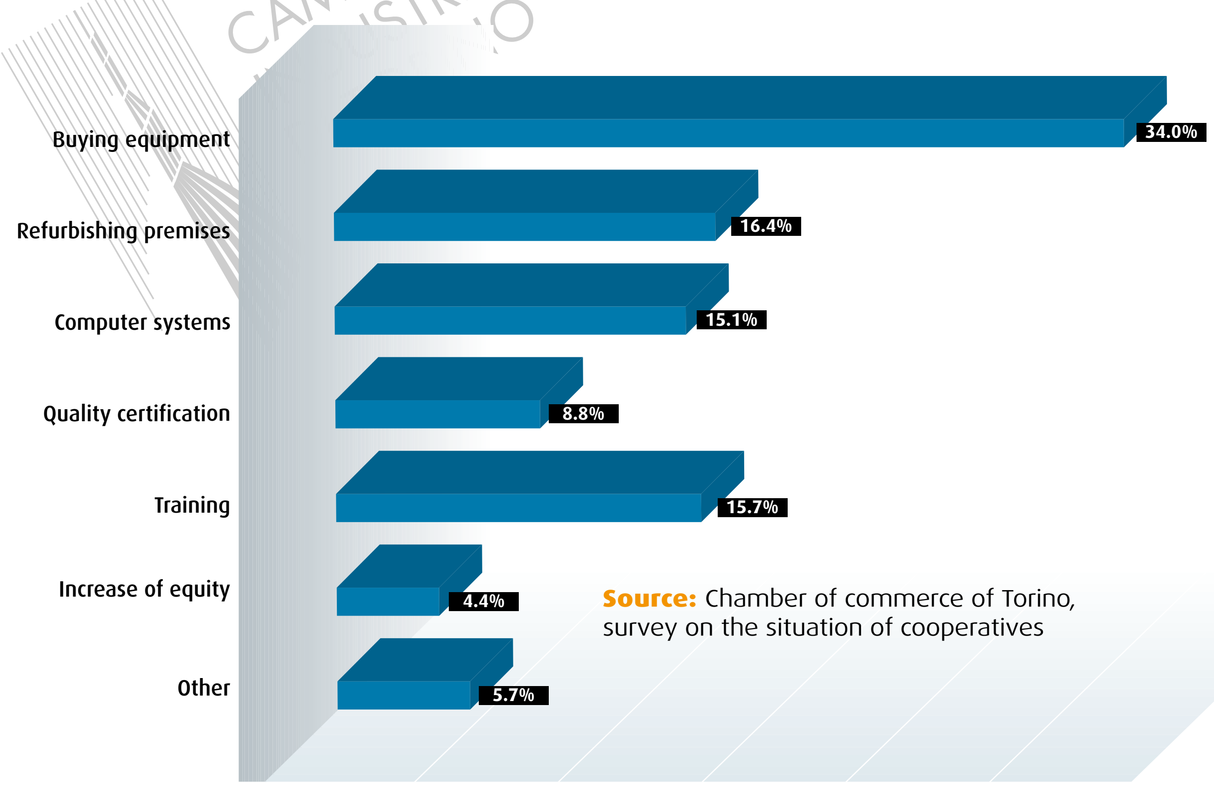
Chart 10 Types of investments made in 2009



Source: Chamber of commerce of Torino, survey on the situation of cooperatives

The main financing channel in 2009 was bank credit (39% of the cooperatives that made investments), followed by self-financing (38.3%) and easy credit (9.3%).
The current situation appears to be holding back forecasts for future investments: only 27% of the co-ops declared that they intended to make investments in 2010.

Interview

Walter Ghella

Founding partner (with Silvia Braga)
of Cooperativa Papili

Can you briefly tell us how your project started?

We were originally founded as Associazione per il Museo Lenci (Lenci Museum Association). Our main objective was to salvage the historical heritage of the "Lenci" doll factory, which was established in Torino in 1919. Our underlining philosophy was to carry on and disseminate the history of Lenci and its founder also by creating a place specifically dedicated to this purpose employing a material currently in disuse - such as felt - and giving jobs to social disadvantaged people. A few years ago we opened "Cooperativa Papili": the name derives from a family of butterflies - papilionides - among the most colourful of all. The metamorphosis from caterpillar to butterfly represents the versatility of our activities.

Why did you choose disused materials, such as felt (or "Lenci cloth")?

Felt carries an identify with itself, a past. Even more importantly, it is an entirely natural fibre. Today, our co-op collects wool from sheep farms of animals being sent to the slaughterhouse in Tuscany: in other words, we use wool which would otherwise go to waste and have it spun to obtain its familiar, final appearance by felting factories in the Biella district. Felt is a rough, imperfect material, one that carries a story of which we have direct knowledge: production is guaranteed, traceable and local. More in general, the simplicity of the materials and products we use, which are mostly common, everyday items, also reflects our modus operandi and helps to respect the time requirements of our production system carried out by people who are gradually being introduced back into the world of employment: in other words, it is a scheme in which training and on-the-job support are crucial tools for consolidating the necessary sense of responsibility, autonomy and self-criticism.

How did you become evolved with the inmates of the Vallette women's prison?

The idea to involve the women's section of the Vallette prison in Torino was prompted by *the current prison director: the involvement of inmates was gradual, starting off as a training programme and only later becoming a paid job. Importantly, involving inmates in the production of these products (three in the prison, one at our workshop) was neither quick nor easy: our aim is to make our employees responsible for their work and provide them with training to help them find employment when the leave the prison. Two former inmates have been hired with a contract since the cooperative was established two years ago. With funding provided by several important local organisations, we are setting up over 160 square metres of workshops in the prison which will be use for packing and hemming "Robe di Kappa" items with the collaboration with Basic Net: the first jobs will be carried out by approximately ten inmates, while finishing and quality control will be carried out in our workshop.*

What is "Progetto Sigillo"?

We took part in the "Salone della Giustizia" (Justice Trade Fair) in Rimini at the end of 2009: this event - the first in its kind - involved several Italian co-ops under a single brand ("Sigillo" means "Seal") developed as a result of an agreement with the Italian Ministry of Justice. "Progetto Sigillo" springs for the collaboration of three national co-ops, which like Papili work in some of the largest women's prisons in Italy: this brand will combine several projects to make all participants more recognisable and to guarantee the ethical and professional quality of the products made in prisons which signed the agreement.

How is the project developed and how is work organised?

All ideas take shape in our offices. I am mainly involved in planning, while implementation and presentation of the end item is carried out by the entire team. In all cases, we all have a specific task: someone deals mainly with design, someone else with fashion and someone else with organisation. Our organisation is small and focused on our team work: even without being real designers, we can contribute to making a more or less striking product. During the year, we organised free design courses with the involvement of architects and engineers and asked to make items from recycled material. In some cases, discovering a new material can suggest a new design, while in other cases choosing the item to be designed conditions the material to be used. Often, these two factors are concurrent in creation: an idea, identifying the right material and - even better - the interest of a customer. Each item is one-of-a-kind and therefore identified by a serial number. Using discarded materials contributes to making the item unique: each piece of fabric is different in terms of colour, size and method of use.

What is the scope of your production and marketing?

The production area is Piemonte where we are currently expanding in terms of sales. Our products are sold in Amsterdam in the Netherlands in a shop managed by young Italians who chose to promote our project. Considering the size of our co-op, production and order management would require planning to deal with requests and marketing time requirements but very often we do not have enough time to plan appropriately. We need to maintain a balance between market needs and our working philosophy: for this reason, at least 50% of production is carried out inside the prison with the support of external structures for the rest of the work, when required for organisation and productive needs.

How did your collaboration with the Slow Food Movement start?

Our meeting with the Slow Food Movement was crucial: it spurred new ideas and methods which fully shared the basic principles of the movement. The essential contribution of "Piacenza Cashmere" spurred the idea to make objects that are practical demonstration of the existence of a genuine all-Italian cashmere supply chain. An example is a teddy bear made of 100% sambucano lambs wool. The toy is stuffed with simple carded wool and the outer was made by recycling damaged sweaters made by "Piacenza Cashmere". This item features in the Slow Food catalogue and is the only one to represent the three principles of the Movement (good, clean, fair): fair because inmates and disadvantaged people are involved in production; clean, because the material is natural and raw.

Do you relate with local authorities?

Yes, there are many important opportunities for collaboration with local authorities, also with regards to the visibility that local initiatives with high social content can be provide. We have started up a number of projects with regional authorities in various areas (farming and food, women studies, museums). In the months leading up to the 2006 Winter Olympics, for instance, we designed a set of gift items for foreign guests representing the farming and food excellences of the area. Another example of collaboration with local authorities was with the city of Torino, one of the first to choose to make and distribute shopping bags made of material other than plastic: with local administrators and AMIAT, we started up the production of several thousands of shopping bags made from sacks originally used to contain flour. Local training organisation are important for training related matters: our objective is to keep as up to date as possible on the main

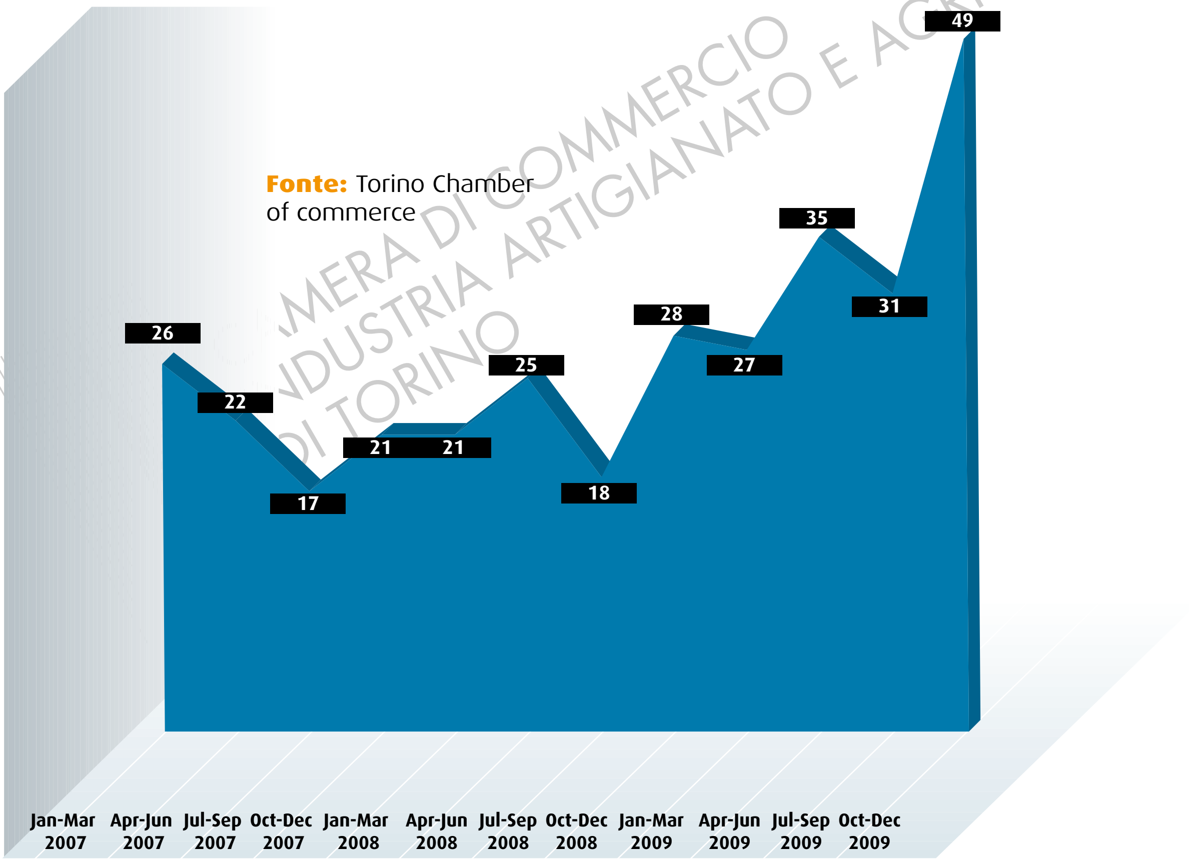
areas of concern (patents, intellectual property, etc.). Training and exchanging ideas on these topics is a key issue for our creative activities and to protect our ideas: from choosing the project to devising the procedures to be followed and allocating the costs to be sustained.

1.7 Other company statistics

A further key indicator of the repercussions of the economic recession on the entrepreneurial system of the province of Torino are statistics on bankruptcy. While bankruptcies greatly increased during the last quarter of 2008, there were 426 during 2009 vs. 285 of the previous year (+49.5%), that is 1.8 every 1000 enterprises (vs. 1.2 of 2008).

The highest number of bankruptcies occurred in manufacturing (124, equal to 29.1% of the total), followed by constructions (105, 24.6%), business-oriented services (84, 19.7%) and trade (83, 19.5%). Lowest values refer to tourism (22. equal to 5.2%) and social care services, with only 7 bankruptcies. No bankruptcies were reported in the farming and energy and water supply sectors.

Chart 11 Bankruptcies in the province of Torino 2007 - 2009 (quarterly averages)



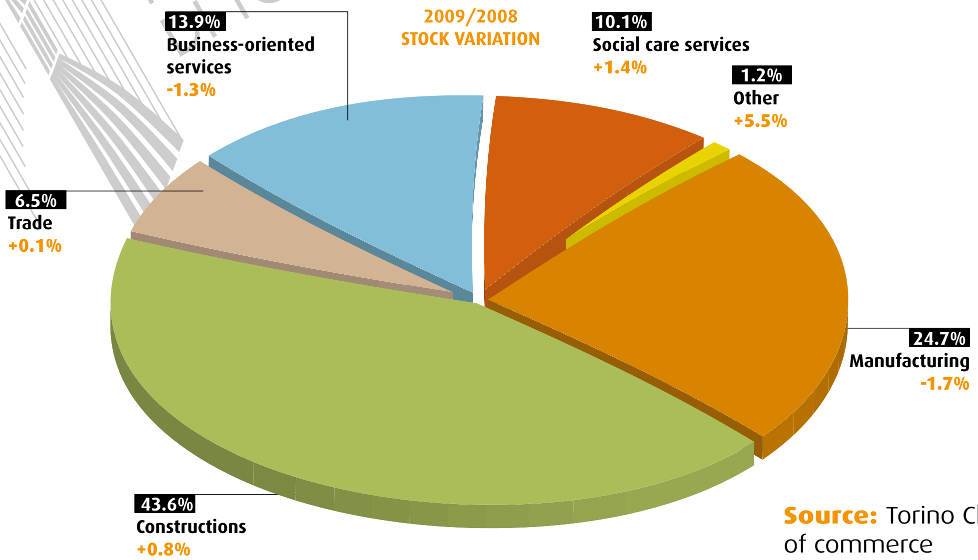
With respect to 2008, bankruptcies in constructions increased the most (+66.7%), ahead of business-oriented services (+61.5%) and manufacturing (+53.1%). Bankruptcies considerably increased in the tourism sector (+46.7%), while the lowest variations refer to trade (+22.1% compared with the previous year) and social and care services (from 6 to 7 bankruptcies).

Bankruptcies concerned corporations in 86% of all cases and proprietorships in 14% of the cases, although the latter denomination increased the most. Location did not appear to be a variable with regards to bankruptcy as confirmed by the fact that approximately half of all closures concerned companies located in the city of Torino and the other half in the province.

1.8 Craft enterprises

At the end of 2009, there were 68,350 craft enterprises in the province of Torino, slightly less than 29% of all companies in the area and slightly more than national average (24.3% of the total). Despite the reduction in new openings (-13.5% with respect to 2008), the growth rate[6] in the Torino area underlined a substantial stability of entrepreneurial fabric (-0.1%). This value is much higher than national (-1.2%) but lower than the local entrepreneurial universe as a whole (+0.6%). Turning now to the areas of activity of craft enterprises in the Torino area, constructions rank first (43.6%), followed by manufacturing (10.1%) and business-oriented services (13.9%).
With respect to the previous year, the social care service sector was the most dynamic, with a increase of 1.4%. The stock of craft enterprises in constructions was low (+0.8%). It decreased for manufacturing (-1.7%) and business-oriented services (-1.3%).

Chart 12 Craft enterprises by area of activity
Weight % year 2009 and stock variations 2009/2008



Source: Torino Chamber of commerce

[6] Court-ordered closures were not included in the enterprise mortality rate.

80% of craft enterprises in the province of Torino are proprietorships. Partnerships amount to 17.3% of the total and corporations are only 2.5%. As in the rest of the region, corporations are on the rise also in the craft area (+11,9% compared with 2008), an important indicator of moderation using more evolved organisational structures. Proprietorships are stable, while partnerships decreased (-1.7%).

The sectors which had the greatest increases were business-oriented services (+23.3% with respect to 2008), trade (+16.1%) and constructions (+13.9%).

1.9 Trade

TRADE IN THE PROVINCE OF TORINO IN NUMBERS	
62,161	companies in the trade sector (*)
32,849	retailers (*)
9,343	wholesalers (*)
11,509	sales agents (*)
7,400	vehicle and motorcycle dealerships and workshops (*)
31,506	corner shops (**)
1,781	medium-sized stores (**)
49	large-sized stores (**)
73	shopping centres (**)
72,7	residents per corner shop (**)
425,0	square meters of medium-sized stores/1000 residents (**)
78,3	square meters of large-sized stores/1000 residents (**)
151,9	square meters of shopping centres/1000 residents (**)

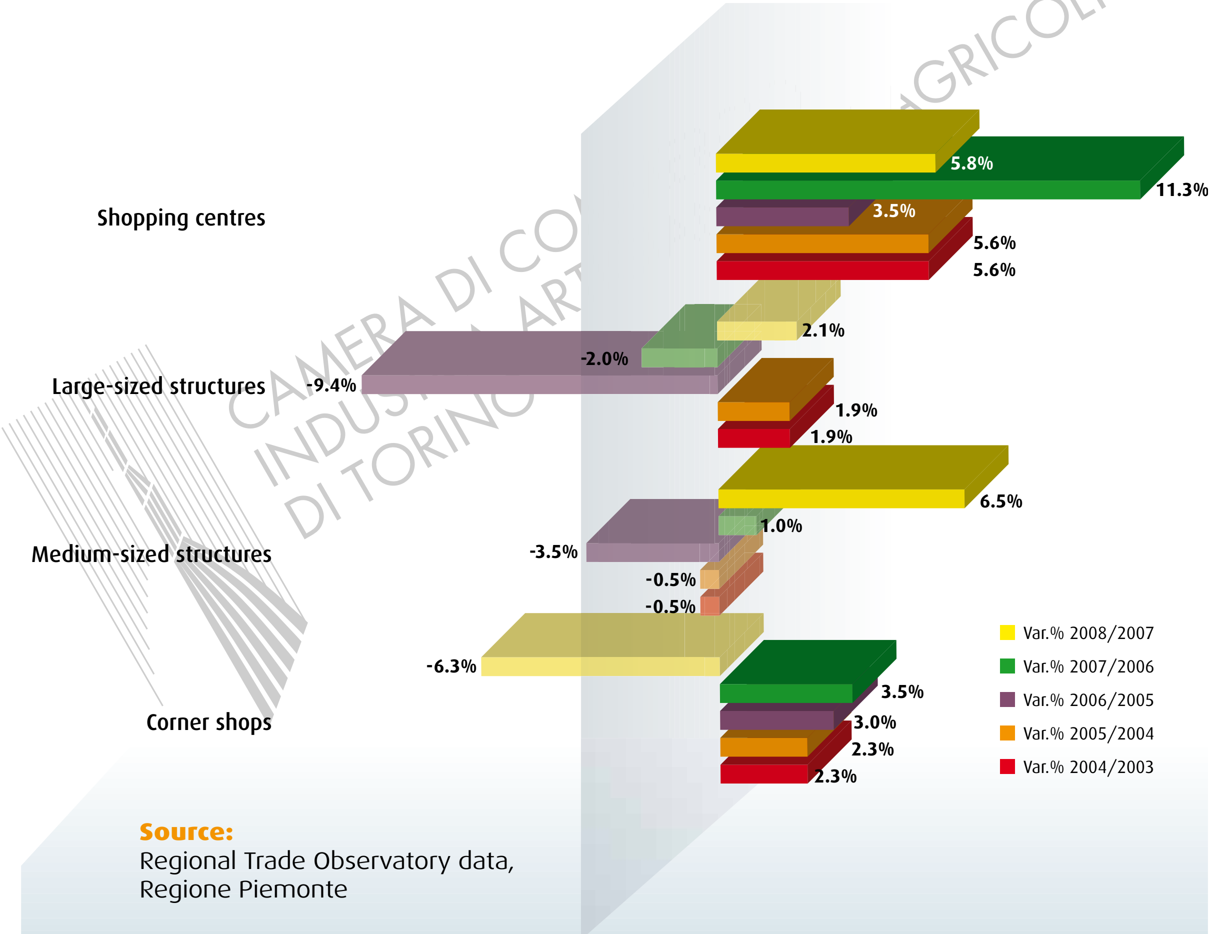
(*) data for 2009
(**) data for 2008

Statistics drawn up by InfoCamere show that there were 62,161 business operating in trade (26.2% of the entrepreneurial fabric of the province) on 31 December 2009, with an 0.4% increase with regards to the previous year. Retailers (net of consumer goods repairs) were 53% of the trade sector, with a stock increase of +0.8% with respect to 2008. The stock variation of wholesalers and vehicle and motorcycle dealers and workshops was positive (+1% and +0.7%, respectively), while the number of sales agents dropped by -1.3% with respect to the previous year.

On the public venue front, there were 4,419 restaurants (+5% with regards to the previous year) and 6,347 bars/cafeterias (+1%) in the province of Torino at the end of December 2009. A different classification of store denominations was adopted by the Regional Trade Observatory in accordance with the requirements of Legislative Decree 114/98 (“Bersani decree”) and Regional Law 28/99. More specifically, points of sales are classified as corner shops, medium-sized stores, shopping centres and large-sized stores[7].

Corner shops in 2008 (last available data) were 94% of the distribution network in the Torino area: since the beginning of the decade, this category experienced a positive trend as a consequence of the liberalisation introduced by the Bersani Decree which allows to start up new small businesses, particularly for new products and new services; in 2008 instead the trend reversed, with a reduction of numbers (31,506) of 6.3% compared with 2007. The number of non-food corner shops dropped (-7.4% with respect to the previous year) and so did food shops although to a lesser degree (-4.2%), while the number of mixed shops increased slightly (+0.6%).

Chart 13 Dynamics of points of sales by type in the province of Torino

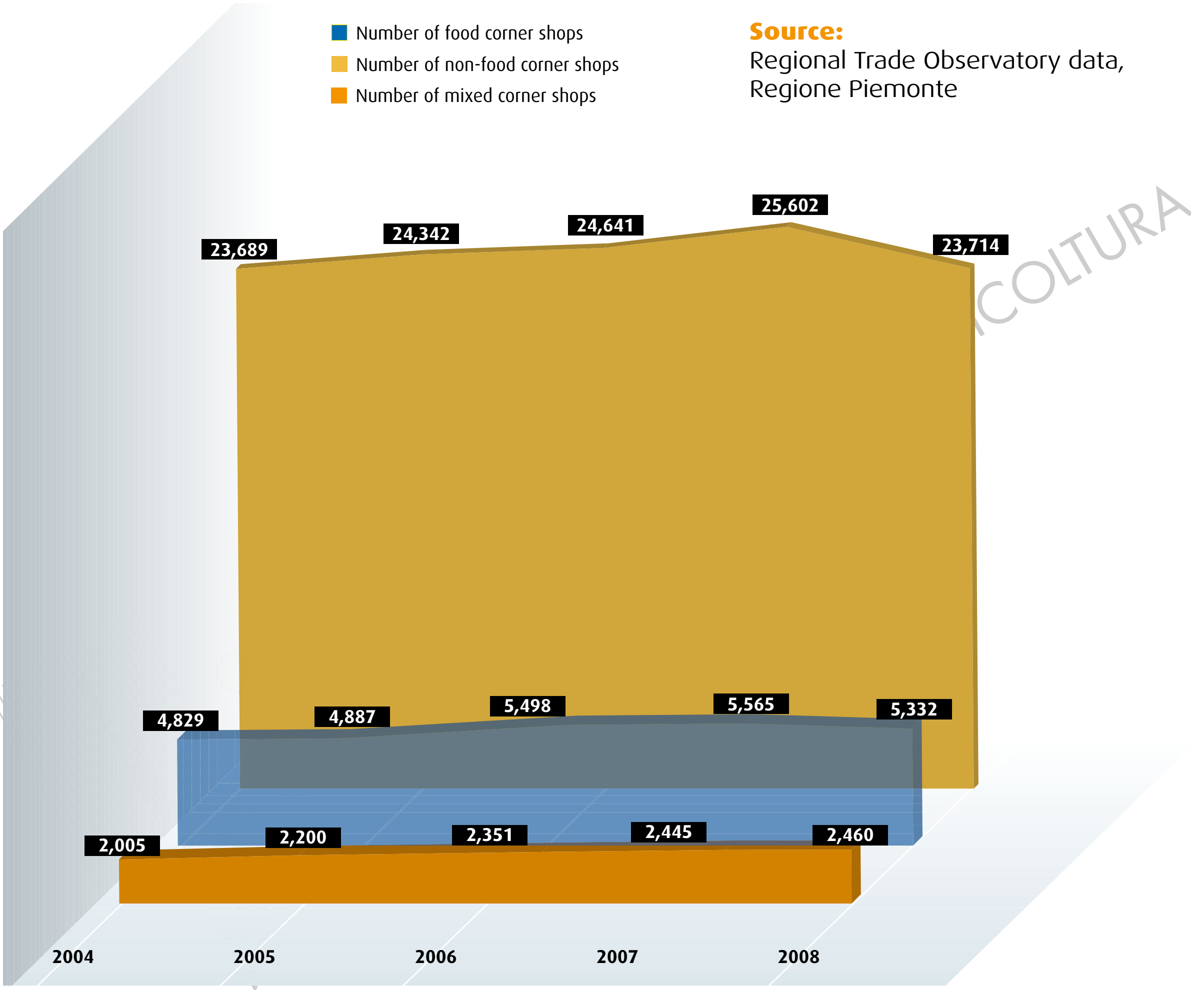


Source:
Regional Trade Observatory data, Regione Piemonte

[7] Legislative Decree 114/98 establishes the following classification for stores according to surface allocated to sales and resident population:
- corner shops: surface allocated to sales of less than 150 square metres in towns with fewer than 10,000 residents and less than 250 square metres in towns with more than 10,000 residents;
- medium-sized stores: surface allocated to sales from 151 to 1500 square metres in towns with fewer than 10,000 residents and from 251 to 2500 square metres in towns with more than 10,000 residents;
- shopping centres and large-sized stores: surface allocated to sales from 151 to 1500 square metres in towns with fewer than 10,000 residents and from 251 to 2500 square metres in towns with more than 10,000 residents.

Following a constant reduction, medium-sized shops in the Torino area increased by 6.5% in 2008 with respect to the previous year. The number of large-sized stores also increased (+2.1%). The growth of shopping centres was relentless (+5.8%).

Chart 14 Corner shops in the province of Torino
Years 2004-2008



The variety of shops may also be described in terms of resident population, i.e. density.
The number of residents per corner shop increased as a result of closures: from 67 to 71 at end of 2008, slightly higher than the regional average.
The square metres available for 1000 residents decreased for medium-sized shops in 2008 (-18.6%), while the density of shopping centres and large-sized shops increased (+6.2% and +2.8%, respectively). The available surface in shopping centres in the province of Torino was in all cases lower than that of Piemonte (198 square metres every 1000 residents and +12.6% with respect to 2007). Statistics drawn up by the Ministry of Economic Development concerning the number of market retailers and other forms of sales counted 5,902 fixed place market traders in the province of Torino, with a 1.2%

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V
VI
VII
VIII
IX

decrease with respect to the previous year. Itinerant market traders instead increased (1785, with +7.1% variation with respect to 2007).

33.9% of fixed place market retailers in the province of Torino sell food, 29.9% clothing and textiles, 37% footwear and leather goods. With respect to 2007, the food sector decreased by 0.9%. Itinerant trade of new and second-hand low-cost items, which accounts for only 0.2% of the total, increased the most (+8.3%). Clothing also grew moderately (+1%).

With specific regards to itinerant trade, the clothing and fabric sector, which accounts for near half the total of the category, increased by 9.6% with respect to 2007.

As for other types of trade, mail order services in 2008 counted 448 enterprises with a +8.2% variation with respect to the previous year. This result must be attributed to e-commerce sites which increased in number from 191 to 241 (+26.2% compared with 2007). The highest growth was that of non-food sales on the web (+28.4% vs. +7.1% of food sales). Door-to-door sales grew (+8.3% compared with 2007) and so did sales by vending machines (+7.1%).

1.10 Excellences and specialisations in Torino

1.10.1 The automotive sector

The 2009 edition of the Italian Motor Vehicle Supply Chain Observatory report, written by the Chamber of Commerce of Torino with the collaboration of ANFIA, attests a decrease in total revenue of 2.6%, as a consequence of the auto industry recession. The drop of total revenue for companies in Piemonte was even higher: -4% with respect to 2007.

The situation did not improve in 2009: the production of motor vehicles declined on all world markets, except for developing countries, which continued to progress despite the recession. In 2009, the Chinese overtook the USA market (13 million Light Vehicle registrations in China vs. 10.5 million in the USA).

With the agreement sealed with Chrysler, the Fiat group reached the objective of obtaining adequate scale economics to compete on the international marketplace. This operation was a challenge and an opportunity at the same time for national component makers, who have the opportunity to obtain new orders but need to either acquire or consolidate their worldwide presence.

Despite the decrease in national motor vehicle component exports in 2009 (-47% with respect to the previous year), the opening of foreign markets is key to overcoming the recession. The entire supply chain should focus with greater determination on new products. The Italian supply chain (2008 data) is worth €45 billion as a whole, with nearly 2,200 companies and a workforce of 170 thousand. Piemonte accounts for nearly half of the total: companies in the region have a revenue of €22 billion and employ over 91 thousand people. The decrease in revenue was contained by diversifying

and steering orders away from automotive to other sectors. Automotive-related revenue was 96% of the total in 2007 and decreased to 87% one year later. This translates into a 11.4% loss of revenue, specifically for the automotive market in Italy and 12.9% in Piemonte. The most penalised areas automotive-related revenue were Engineering & Design (E&D) and subcontractors. Local experts and E&D (-0.6% of total revenue) proved to the best equipped to tackle the slump.
The most felt problem was that of liquidity: 70% of the interviewed group stressed uncertain invoice payment times to be the most critical problem (this is particularly felt by companies in Piemonte), followed by difficulty in obtaining credit and precarious financial conditions (reported by 36% of the interviewed group).
2008 was a tough year yet the percentage of revenue invested in R&D remained stable (approximately 2.5%). It is no chance that every 1 out of 5 euros of revenue comes from innovative products. Piemonte is bucking the trend: despite a drop of R&D expenditure in absolute terms, revenue increased by 2.3 in 2007 and by 2.6% in 2008.
The number of companies which have expanded their geographical horizons and conquered new markets, particularly in the extra-EU Mediterranean area, India, South America, China and Central Europe are on the rise. 46 new plants were opened abroad during the past three years.

Table 7 Estimated revenue for 2008 and employees of the automotive supply chain in Italy and Piemonte

ITALY	COMPANIES	EMPLOYEES (ESTIMATED)	2007 REVENUE [1] (BILLIONS) (real balance data)	2008 REVENUE [2] (BILLIONS) (estimate)	2008 AUTO REVENUE [3] (BILLIONS) (estimate)
TOTAL ITALY	2,186	170,245	€ 46.227	€ 45.039	€ 39.241
PIEMONTE	879	91,739	€ 23.497	€ 22.562	€ 19.756
REST OF ITALY	1,307	78,506	€ 22.730	€ 22.477	€ 19.484
ESD	242	22,322	€ 5.526	€ 5.437	€ 4.549
OEM	56	31,247	€ 7.696	€ 7.270	€ 6.613
SPECIALISTS	479	46,150	€ 10.893	€ 10.818	€ 9.878
SUBCONTRACTORS	1,409	70,526	€ 22.112	€ 21.514	€ 18.201
PIEMONTE	**COMPANIES**	**EMPLOYEES (ESTIMATED)**	**2007 REVENUE [1] (BILLIONS) (real balance data)**	**2008 REVENUE [2] (BILLIONS) (estimate)**	**2008 AUTO REVENUE [3] (BILLIONS) (estimate)**
TOTAL PIEMONTE	879	91,739	€ 23.497	€ 22.562	€ 19.756
ESD	141	16,235	€ 3.793	€ 3.768	€ 3.225
OEM	31	16,266	€ 3.453	€ 3.259	€ 2.948
SPECIALISTS	191	20,791	€ 6.040	€ 5.875	€ 5.531
SUBCONTRACTORS	516	38,447	€ 10.211	€ 9.660	€ 8.053

Source: Chamber of commerce of Torino - ANFIA, Italian Motor Vehicle Component Observatory

[1] Revenue produced by companies of the supply chain compared to the entire economy.
[2] Projection based on estimated sampled revenue compared to the entire economy.
[3] Projection based on estimated sampled revenue compared to the automotive supply chain only.

In light of the recession which heavily hit the means of transport sector, the interviewees were asked how to operate to overcome the crisis (nearly 880 companies were interviewed representing a universe of just under 2,200). Results showed that local entrepreneurs were mainly focusing on rationalising production (225 companies, equal to 57.4% of the 392 interviewees said this was one of the main recipes for pulling out of the recession). In order to do this, one company out of five asked for easier access to lay-off funds. The same percentage report attempting to cut fixed costs and variables and searching for new customers (57.7%). At the same time, innovation is felt as a solution to offer new products to customers (traditional and others). Because of the reduced profit margin, 29% of the 392 who answered ask to be helped in this strategic activity with outright grants.

Interview

Ing. Angelo Accossato

Managing Director of Coproget S.r.l.,

company awarded with "Premio Chiave a Stella" in 2009, a recognition for SMEs capable of successfully combining innovation and tradition.

Where along the motor vehicle supply chain does your company stand?

Coproget is specialised in the construction of equipment and special machines for cold sheet machining, and over the past years we have specifically focused on high-tech systems. We carry out all production process steps, from designing optimal solutions to practical implementation, in-house. We therefore stand between machine and system makers, and are typically a first-level supplier on the automotive supply chain.

Your company has been working since 1994. How did it evolve over time?

The automotive sector is traditional business vocation of our area, and over the past years has gained an increasingly internationalised perspective, seeking more competitive, lower-cost solutions on foreign markets. In this scope, the competition has increased and become more relentless. In order to compete, we chose to specialise in the construction of high-tech systems, aiming at particular market niches which are not easy to access. Crucial to obtaining this result is our technological know-how and our ability to fulfil our customers' needs.
Although we do not have a consolidated market truly alternative to automotive today, for several years we have been addressing sectors such as constructions and care (e.g. strollers and prams) with the aim of applying the skills we gained in the metalworking field to other areas.

How important is technological innovation and industrial property protection for your company?

Needing to work on a "mature" market, where competition is tough, was certainly an incentive for us. Technological innovation has always been the centre of our business, to the extent that over the years we have created innovative solutions which make our systems stand out *among the others on the market. The need and intention to protect industrial property is a direct consequence of this: since we started up, we have filed seven patents, some of which not directly related to our main market, i.e. are not automotive-related. An example is a patent for metalworking design applied to a pram and a patent on spacers for the constructions industry. The latter is currently being developed from a more concrete point of view by applying high-strength materials created specifically for automotive applications to constructions for the first time. Our solution is innovative and cost-effective. Today, approximately 15% of our revenue is allocated to R&D, an evident sign of our strong technological innovation.*

Have you developed relationships with other companies working on the local market over the past years?

Creating partnerships with other companies is crucial for a small enterprise such as Coproget to be competitive on the complex marketplace. We have sealed deals with other companies on local level and located outside the region.
Additionally, we have recently started collaborating with the Torino Polytechnic, specifically with the Department of Mechanics, on a patent concerning a self-configurable gauge. The skills of Torino Polytechnic researchers are fundamental for innovating, as are partnerships with private companies.

Coproget is a member of the MESAP technological innovation cluster. What opportunities do you expect to obtain?

We will most certainly have the opportunity to get to know companies working in very interesting fields from the technological point of view and to establish new collaborations. Several interesting contacts are already being developed. We will be able to access funding for new projects and research. In brief, our main objective is to share our experience with that of the other companies and obtain new boosts for developing new products.

How much of your revenue is exported? What are your main markets?

This year, approximately 40% of our revenue was exported. Unfortunately, this percentage has changed a lot because our systems are very complex and require from six to seven months of design, and therefore we can only accept a certain number of orders per year. Special projects such as "From Concept to Car" have helped us internationalise and reach countries such as Turkey, China and India. Furthermore, on European level, we have been exporting to Germany and Spain for years.

Recession has hit your sector hard: what is your formula to overcome the crisis?

Concentring on niche activities being aware that they are reserved for few. This is the reason why we are reacting rather well to the difficult economic situation: Coproget is still collecting orders today, despite our small size, because we supply products with high-technological contents that were once only supplied by large companies. The combination of a small business and technological innovation means we can cost-effectively make high quality products.

1.10.2 The aerospace cluster in Piemonte

The aerospace sector is today an increasingly important part of local economy: Piemonte appears to have become an important technological district on the international marketplace, capable of competing with other major European aerospace clusters. The aerospace cluster totals an average yearly revenue of over €1.8 billion, over 10 thousand employees in five major companies - Alenia Aeronautica, Thales-Alenia aerospace, Galileo Avionica, Microtecnica, Avio - and over 400 SMEs that address the aerospace sector among other activities, three universities and three specialised research centres (Regione Piemonte data, 2008). Interestingly, over 95% of the companies in this sector have less than 250 employees. With regards to specialisation, most companies operate in manufacturing and scopes vary from special machines and tools for aeronautic constructions to mechanical precision working for the defence sector, design and building of cryogenic systems and production of special vehicles on wheels and tracks. Most of the aerospace activity is concentrated within the five majors: the first three gather nearly 70% of the entire sector revenue.

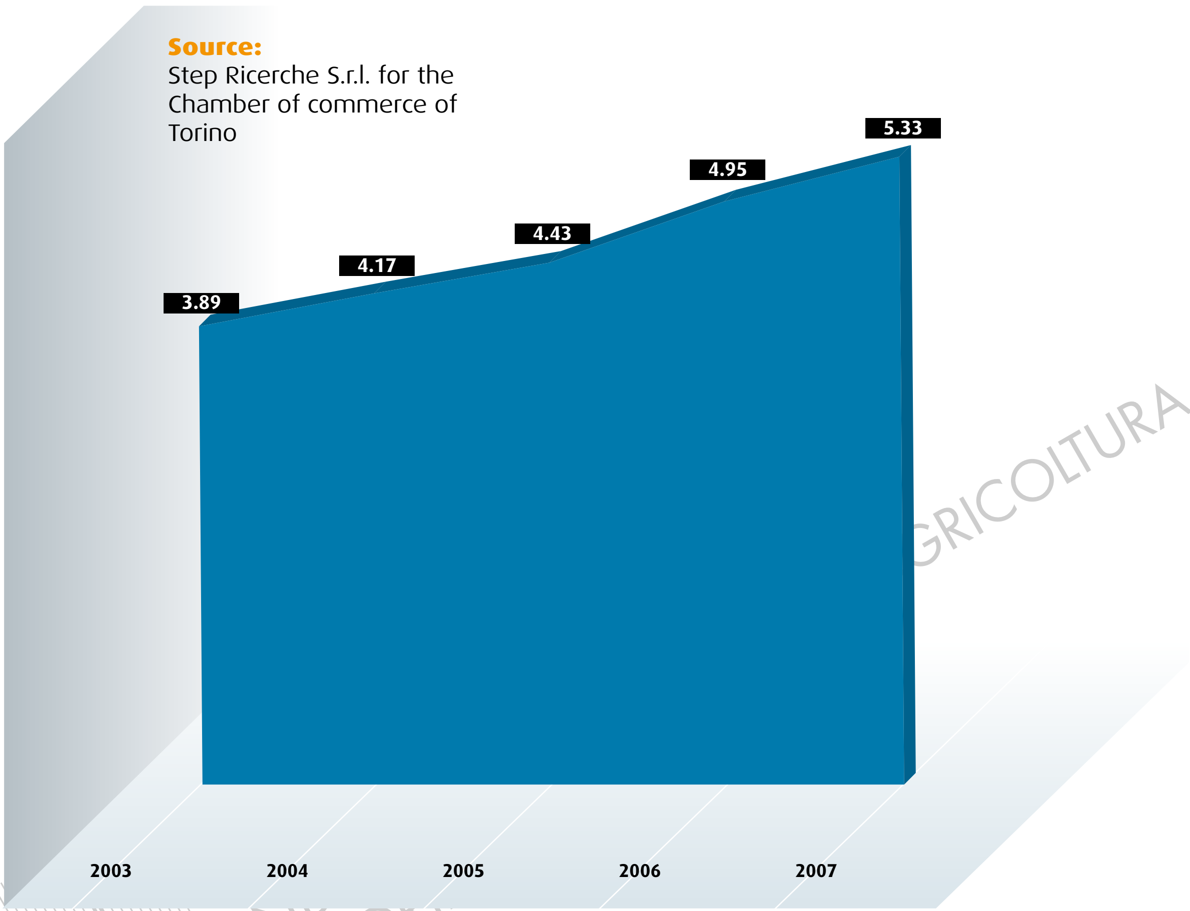
Considering the importance of the sector for local economics, the Chamber of Commerce of Torino conducted a survey[8] on a group of companies representing the regional aerospace system (115 corporations) by analysing balance data in the 2003-2007 period. The survey was conducted on a closed sample basis, i.e. companies which were active for the entire period and for which balance sheet data are available for the entire period, and on an open sample basis, i.e. including companies active in 2007 and with balance sheet data available for this year only.

The "representative company" of the survey is a median company, i.e. one that stands in the middle of the statistic distribution of economic and financial reference values. In 2007, the medium aerospace company invoiced €3.4 billion vs. an average of €0.8 million of the national high-tech cluster. Balance data indicate that aerospace companies in the region created added value for 35.1% of their profits, vs. 31.5% referable to national high-tech companies. In particular, one company out of four created added value for more than 52% of its revenue. How was the added value created by the median company distributed? 71% covered cost of labour; the cost of capital (actual) (with risk premium) took 13% (value in line with the national hi-tech cluster) and 7.4% went in taxes. The remaining 7.1% was remuneration for financial risk (this percentage was higher than 15.7% for one fourth of the companies).

All these results point to the fact that the aerospace sector is particularly lively: from 2003 to 2007 the total growth in revenue of the 115 companies taken into consideration was 45% vs. +23% of the national high-tech cluster: aerospace companies are larger than average, grow at faster rates and are more profitable.

[8] With the collaboration of Step Ricerche S.r.l.

Chart 15 Average revenue (millions) of aerospace companies in Piemonte
Years 2003-2007

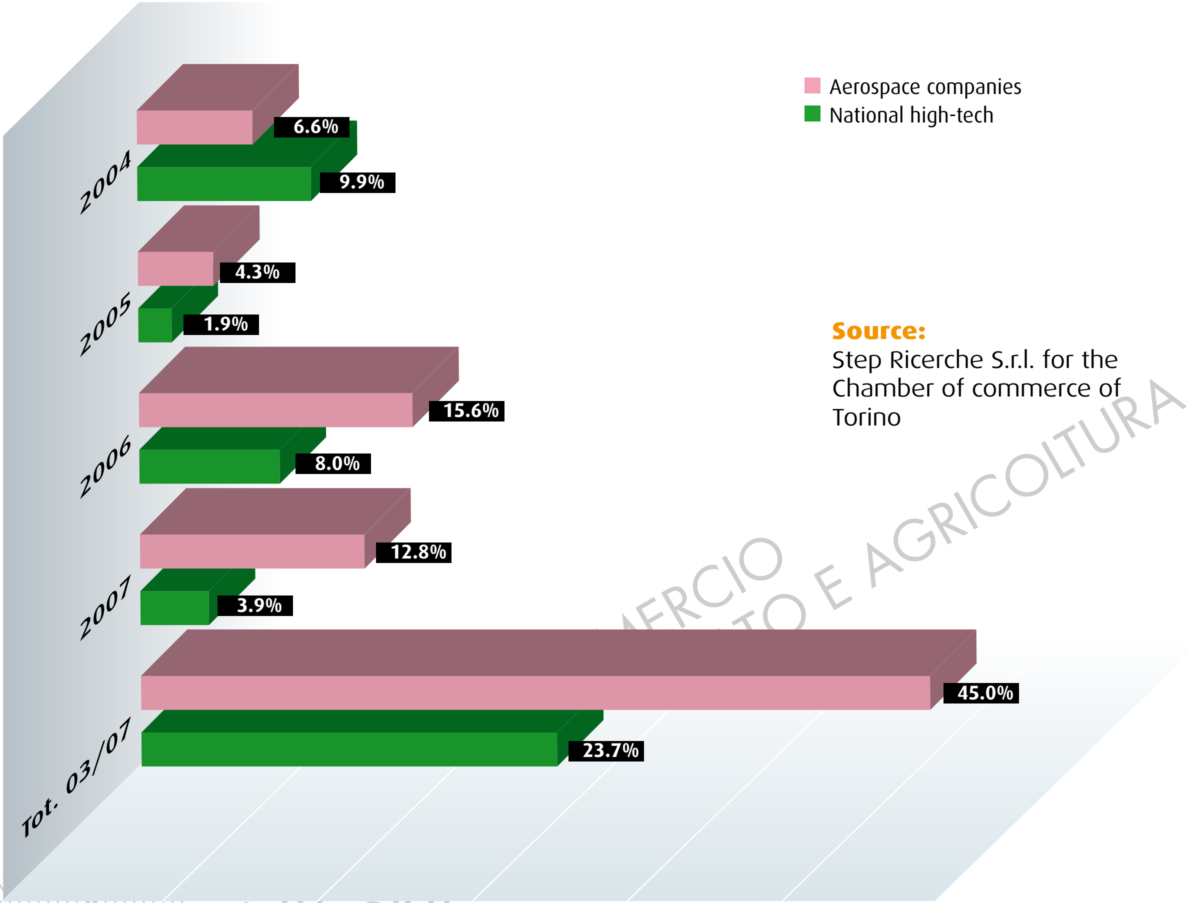


With regards to the degree of internationalisation of local companies working in this sector, Piemonte in 2009 totalled approximately 21.4% of national exports and 9.2% of imports, as confirmed by ISTAT data on aerospace industry international commercial interchanges in Piemonte[9]. Over the past year, exports amounted to over €887 million and imports equalled nearly €185 million, with a balance of trade equal to +€702 million. For the province of Torino, the export and import flow are €877 and €176 million, respectively.

During the past five years, exports of aircraft and space vehicles from Piemonte towards the rest of the world increased by 127%.

[9] On the basis of ISTAT ATECO 2002 and ATECO 2007 classifications, import-export only refers to the "Construction of aircraft and space vehicles" sector but not to interchanges of companies classified in other sectors of activity (producing, for instance, electric and electronic devices, precision devices, etc.), for which the construction of aircraft and space vehicles is primary or secondary reference market.

Chart 16 Revenue Var.% with respect to previous year of aerospace companies in Piemonte and of the national high-tech cluster



Source:
Step Ricerche S.r.l. for the Chamber of commerce of Torino

I
II
III
IV
V
VI
VII
VIII
IX

THE TORINO PIEMONTE AEROSPACE PROJECT

Given the importance of the aerospace sector in 2007 Piemonte, the Chamber of Commerce of Torino decided to start up a three-year project called “Torino Piemonte Aerospace”, with the support of Piemonte regional authorities and managed by the Export Centre for Internationalisation to promote local companies working in the aeronautic, space and defence sector. The objective of the project is to promote the growth of local companies on the aeronautic (civil and defence) and space supply chain by following and assisting them on the international marketplace. Main activities of the project include:

- presence at major international trade shows
- country analysis and business opportunity scouting
- training and refresher courses for commercial and technical staff
- customised company consulting services.

The project is based on the concept of selecting and promoting local excellences. Applicant companies were selected according to very strict parameters taking into account technical know-how, innovative products and processes, references, level of internationalisation and human resources potentials. Sixty-six companies are involved in the project today.

AEROSPACE MEETINGS TORINO

One of the most recent projects of the Chamber of Commerce of Torino was “Aerospace & Defence Meetings Torino”, the first international business convention devoted to the aeronautic, space and defence manufacturing sector. Results went beyond the best expectations:

1500 attendees representing 346 companies
187 suppliers
80 customers
79 companies attending the Virtual Design & Virtual Testing conference
11 research centres and universities
approximately 6000 organised B2B contacts

The following countries were represented: Italy, France, Germany, UK, Netherlands, Spain, Switzerland, Hungary, Poland, Romania, Czech Republic, Tunisia, Israel, India, China, Russia, Canada, USA, Mexico.

The event was repeated in 2009 (28 and 29 October). It will be organised every two years in the future, alternating with Aeromart Toulouse.

Interview

Ing. Franco Tortarolo

Technological R&D Manager of Avio Group S.p.A.

The world of air transport is increasingly sensitive to atmospheric and acoustic pollution concerns and to the repercussions of air travel on the global climate. In this scope, the development of new, eco-compatible processes seeking alternative solutions for limiting the emission of carbon dioxide into the environment is fundamental. What new engine architectures can we expect will be implemented by the aerospace industry in the immediate future?

With the object of casting the foundations for significant technological improvements and supporting sustainable development in the air transport system, a team of European experts defined a document entitled "Vision 2020" at the beginning of the decade containing a number of quality objectives for air traffic eco-compatibility, safety, competitiveness and management.

The objectives assigned to the propulsion system (ACARE 2020 - Advisory Council for Aeronautics Research in Europe) are very ambitious and contain drastic improvements with respect to the last engine generation (20% less fuel consumption, from 60% to 80% lower nitrogen oxide emissions, half perceived noise, accident reduction to factor 5).

The engine configurations being studied for these applications include radical geared fan and open rotor architectures, particularly for medium-to-short range aircraft, to contain fuel consumption and emissions into the atmosphere. The geared fan configuration includes the introduction of a mechanical transmission system on the low-pressure shaft for allowing slower fan speeds and making more compact, faster turbines with lower specific fuel consumption as a consequence. The innovative open rotor configuration on the other hand is known as UnDucted Fan (UDF). The design consists in positioning counter-rotating rotor stages on the rear external part of the engine. Although the specific features of this architecture allow a 30% reduction, the open rotor configuration has problems of noise. Recent studies on aerodynamic optimisation level, control systems and new material and computer techniques are crucial for new activities on technological demonstration level. Today, both architectures are being studied on a preliminary basis with many possible solutions and configurations.

Avio Group, with the collaboration of the Torino Polytechnic and several other local companies, is leading the Great 2020 platform. In brief, what is this project? What main results have been reached today?

The "Green Engine for Air Traffic 2020" (GREAT 2020) project is one of the initiatives of the Aerospace Cluster Promotion Committee, which groups 27 small and medium-sized companies from Piemonte and the Torino Polytechnic, with the objective of supporting local companies when taking part in European projects for studying new eco-compatible aeronautic engines which will start operating in 2020.

The main objectives of the project proposed by Avio within the Aerospace Cluster is to prepare local companies to play a leading role in the development of new engines, to create a permanent structure with a reputation for reliability targeting international engine industries, to feed an aeronautic research and training system of excellence, to technologically qualify SMEs to allow greater involvement in both aeronautic research and development programmes thus creating positive repercussions on other supply chains.

In practice, the GREAT 2020 project lead to the creation of six virtual workshops focusing on strategic system issues, distributed throughout Piemonte on the basis of six areas which currently exist (equipment, skills, relationships, etc.) and which may be developed in the future, thus expanding the local aerospace fabric to include development and production, taking the entire lifecycle of engines into account. Until today, after a first preliminary step, alternative, more cost-effective processes are being studied for the production of turbine blades made of state-of-the-art material, such as TiAl (titanium-aluminium), which is 30% lighter than other alloys. The impact of alternative fuels on fuel system performance (performance/consumptions/emissions) is being studied. We have completed the preliminary design of a counter-rotating turbine module: this a new, absolute innovative configuration for aeronautic engines aims at improving efficiency and reducing environmental impact while concentrating on the development of power transmissions for both configurations.

The European Commission, with the "Clean Sky JTI (Joint Technology Initiative) project is also interested in technological developments for supplying answers to environmental concerns. How is Avio Group involved in the project?

Clean Sky is a great opportunity for Avio and Europe to reach the challenging objectives of ACARE and to increase the competitiveness of aeronautic industry and the respective supply chain. This seven-year project is the biggest research programme to have ever been structured in Europe in the aeronautic sector. By creating a joint public-private partnership, it has a budget of €1.6 billion (of which 50% is financed by the European Commission).

Avio is a Clean Sky partner contributing with a share of €21 million, i.e. 5% of the engine plat-

form budget (SAGE). The involvement of Avio in the Green Engine project focuses on both innovate engine architectures - geared fan and open rotor - and counter-rotating turbine and geared configurations.

Avio is involved in the development of advanced mechanical, low-pressure turbine transmission systems for new engine configurations. The engine platform strategy is to demonstrate feasibility of new configurations by means of a test bench in 2013. Today, Avio has defined the design concept of the counter-rotating turbine and the mechanical transmission system for both the geared fan and open rotor engine configurations.

What other "Green Engine" programmes is the company involved in?

Avio has been involved for several years in the most important European research programmes within the scope of well-known frameworks promoted by the European Commission. In the fifth framework (FP5) the involvement of Avio increased by participating as partner in the EEFAE (Efficient, Eco-Friendly Aircraft Engines) project. The objective of the four-year project (2002-2006) was to increase available technologies and led to the creation of two demonstrators, ANTLE (Affordable Near Term Low Emissions) and CLEAN (Component vaLidator for Environmentally friendly Aero eNgine). Activities were completed with studies and bench tests. Two new integrated projects called VITAL and NEWAC were defined during the sixth framework (FP6). The first project (2004-2008) was started to identify eco-compatible architecture improvements and was devoted to the low-pressure sections of the engine. More specifically, developed technologies concerned new concepts for light-weight components and low acoustic emissions contributing to improving engine efficiency. The objective of the second project (2006-2010) is to define new technologies for the high-pressure section to improve thermal efficiency and consequently obtain a 6% reduction of CO_2 emissions and a 16% reduction of NO_x on an intermediate technological level. For the seventh framework (FP7), Avio will be taking part in the DREAM project aimed at studying radical engine configurations and bench tests to reduce fuel consumption by a further 9% with respect to EEFAE and VITAL results. The objective is to reduce noise with respect to the engines currently operative by 3 dB.

Avio and the Torino Polytechnic. A key partnership?

Within the scope of Green Engine, it is important to mention the partnership agreement between Avio and the Torino Polytechnic, aimed at structuring a series of joint projects, creating a "green culture" in aeronautic engineering and training new researchers. A result of this project is the creation of the integrated Great Lab at the Polytechnic Campus in Via Boggio in Torino, for forming a team of 21 researchers, of which 7 permanent, on core issues related to the new eco-compatible *engine technological challenges. Research activities considered strategic for further applications on regional and national level by means of specific research projects are also worth mentioning. In this scope, for example, are the activities for supporting the development of new TiAl alloy for Light Weight turbines and More Electric Engine applications.*

Innovation is a key tool for overcoming the recession: how can the "green engine" technological challenge contribute to this?

Avio is working on the concept of technological platform as a physical - and, above all, logical structure - to facilitate the involvement of the Piemonte cluster, constituted by SMEs, universities, research organisations, Avio and possible other major corporations interested in the matter as co-partners, on eco-compatible aeronautic propulsion issues worldwide. The advantage of a structure of this type is to be able to respond to the development needs of new eco-compatible engine architectures but also to recreate a local structure capable of driving future development. It is a known fact that aerospace products require a medium-to-long term vision but once certain markets have been penetrated the product creates major long-term stable repercussions.

Can Torino and Piemonte play a strategic role in the development of eco-compatible engines?

These considerations are based on an existing first-class reality which is extremely interesting and unique, and which of course must be boosted to become the flywheel of national engineering evolution. The presence of a centre of excellence - namely Torino Polytechnic - is certainly a strength of the area. There are many well-established SMEs working for the automotive industry which are all potential resources. The collaboration between SMEs and local research centres may be positive for creating a concrete, continuous system network which will certainly further consolidate the strategic role of Piemonte.

Ing. Nazario Cauceglia

Chief Technology Officer
di Alenia Aeronatica Spa

The world of air transport is increasingly sensitive to atmospheric and acoustic pollution concerns and to the repercussions of air travel on the global climate. Air traffic is responsible for 3% of the total emissions of CO2 into the atmosphere and this is expected to increase to 5% by 2050. In parallel, increased costs for raw material, in particular petroleum, combined with the growing demand for air traffic, forces manufacturers and air liners to find sustainable solutions in terms of economic and environmental impact. What can we expect for the immediate future in terms of aerospace eco-compatibility?

It is rather easy to expect an increase in the attention of the political system, industries and the society as whole towards environmental and eco-compatibility issues with a parallel increase of research and innovation efforts towards sustainable technologies.

Aeronautic products require much longer development and maturing time than those of other sectors. Consequently, we cannot expect radical changes in the immediate future and I would prefer a longer term vision. On the medium-to-long term, it is clear that deep transformations will take place, mainly but not exclusively fuelled by the theme of eco-suitability in air transport as a whole. It must be considered that air transport, and the aeronautic industry as a result, plays a crucial role in the scope of expanding economics. Consequently, conditioning or ballasts which could slow down evolution must be avoided. Issues such as safety, transport efficiency, cost-effectiveness and environmental compatibility, already identified as priority by ACARE (Advisory Board for Aeronautic Research in Europe) on SRA (Strategic Research Agenda) will become even more crucial and must be tackled with the necessary determination and deployment of resources. Introducing radical innovations in transport infrastructures (navigation systems, airports) and on aircraft (new low CO2 and NOx emissions, low noise emissions) while addressing efficiency and safety and environment impact at the same time is very challenging.

The "Clean Sky JTI (Joint Technology Initiative)" is a public-private project promoted by the European Commission which aims at driving industrial technologic research and development towards the solution of the biggest environmental issues: how is Alenia Aeronautica contributing to the project in the province of Torino and in Piemonte?

The Clean Sky and SESAR programmes are key examples of how air transport is strategic in the vision of the European Commission and of aeronautic sector companies and how the development of such innovations must be developed within transport and aircraft infrastructures. The Joint Technological Initiative tool aims at recovering efficiency and efficacy in pursuing European research objectives by simplifying procedures and introducing activity conduction management criteria. In Clean Sky, Alenia Aeronautica is leader of one of the aircraft integration platforms, in particular the new Green Regional Aircraft platform, and we are consequently called to perform a task requiring a high level of responsibly which is a great opportunity for technological growth and fundamental for our competitiveness at the same time.
This opportunity is not only for Alenia, but is extended to the network formed by national and international SME, research centres and universities as a whole, with particular attention to the Torino area and Piemonte where flight testing, aerodynamic and aero-acoustic tests, instrument integration, flight system simulation and finally new engine concept integration activities are carried out.

In other words, can the resources available in Piemonte and Torino play a strategic role in the development of new eco-sustainable technologies ?

The capacities in Piemonte are unique and strategic for positioning Alenia Aeronautica with respect to the new challenges of future eco-sustainable air transport. I am referring to the SMEs network, academia and research centres. In all case, the area has know-how and resources of absolute excellence on national and European level.

"Torino Piemonte Aerospace" and "Aerospace defence meetings" are projects for promoting the development of eco-sustainable programmes and mutual knowledge between companies. What functions can public authorities provide with this regard?

These initiatives are certainly crucial for two main reasons: firstly to create an information flow to generate awareness and share strategic directions and opportunities, and secondly to cast the foundations for building a solid, extended network and activating partnerships, cooperation and supply chain exchanges.

In this day and age of uncertainty and economic hardships, focusing on innovation is critical for entrepreneurial systems. How can the development of eco-compatible technologies contrast the negative trend and consolidate the position on company markets operating in the aerospace sector?

I am personally convinced that far from being a constraint, environmental issues can be a competitive selective factor for potentially creating very important technological advantages. In other words, new rules and environmental restrictions also in aeronautics will certainly create difficulties and force to redesign many product ranges and to terminate others, but at the same time will open up unprecedented opportunities and strongly drive targeted innovation. As a consequence, whoever can interpret and anticipate this rapid evolution will find themselves in a privileged position.

It is important to underline that eco-sustainability and cost-effectiveness converge. In other words, the improvements which can be obtained in terms of environmental impact in turn improve aeronautic product economic efficiency indicators.

In brief, I belief that the boost towards eco-sustainability cannot be reversed and being able to manage and address it mean gaining great future advantages. This is even more so in uncertain times like these. The environment may simply be a further opportunity for consolidating the future competitiveness of our companies.

1.10.3 The ICT sector

In 2009, according to the InfoCamere database there were 7907 businesses working in the ICT sector[10] in Piemonte as a whole, 68% (5349) of which based in the province of Torino. ICT business belong to three main sectors: approximately half operate in the multimedia and the remaining operate in ICT services and production (29 and 11.4%, respectively). With regards to the production of multimedia products, approximately 67% produce software, while the main ICT services are telecommunications (little less than 30% of this macro category), consultancy and technological services (21%). Computer and device makers represent 39% of the macro sector.

Table 8 Companies registered in the ICT sector - Year 2009

	TORINO	PIEMONTE	ITALY
Computers and devices	237	348	4,245
Telecommunication apparatuses	96	147	1,836
Production of audio and video electronic consumer products	23	39	648
Other ICT components	256	357	3,377
Total ICT production	**621**	**891**	**10,106**
Software publisher	27	32	312
Consultancy and technological services	330	460	3,432
Telecommunications	465	663	10,090
Rental and leasing of ICT goods	26	43	509
Other ICT services	726	1,236	15,169
Total ICT services	**1,574**	**2,434**	**29,512**
Publishing	202	337	5,475
Software production	2,112	2,959	29,248
Production of films, videos and TV programmes	414	645	12,775
Sound recording and music publishing	59	96	1,630
Other multimedia services	376	545	8,585
Total ICT multimedia products	**3,163**	**4,582**	**57,713**
TOTAL	**5,349**	**7,907**	**97,331**

Source: Chamber of commerce of Torino using InfoCamere data

Observing the evolution trend from 2000 to end of 2008, enterprises in the ICT sector in the province of Torino increased by nearly +28%: in absolute terms, the increase was higher in the service sector (+1060 businesses over the past eight years). The telecommunications sector had the highest increase in relative terms: +597% (from 69 in 2000 to 481 in 2008).

[10] The new "ATECO 2007" classification, which is the Italian national version of the NACE rev.2 European classification, was used to analyse number of enterprises as from 2009.In the new method, sectors are more detailed with respect to the previous "ATECO 2002" classification and ICT sector companies are identified more correctly. For this reason, the number of registered ICT companies appears lower after 2009 than previous years because items which were previous included are no longer. According to the OCSE definition, the sector includes a diversified set of activities related to the production, processing and transmission of information: manufacturing of devices, instruments and equipment; processing and broadcasting services; contents.

ICT import-export in 2009

The data used to analyse ICT import-export were identified by cross-referencing the "ATECO 2007" ISTAT codes and the "OCSE ISIC rev. 4" classifications.

In 2009, the export of ICT products from Piemonte was 6.4% of the national total. As a whole, the ICT sector weight on regional export is 3.2% . ICT sales from Piemonte to the world decreased in 2009 (-21,6%; €454 million) and so did imports, although to a lesser degree (-0.8%; €1031 million). The main goods exported from Piemonte were publishing products[11] (36% of sector sales), followed by electronic components and electronic boards, computers and devices (22.2%) and telecommunication apparatuses (13.1%). Although imports of technological items decreased on regional level as a whole in 2009 with respect to 2008, they increased in the province of Torino by 7.7%. The trend of international orders for ICT products in Piemonte is negative: totally €355.3 million, ICT export decreased by 21.2%, which is higher than the regional value (-13.8%). Also on province level, the export of published products leads with 27.8% of total sales; this is followed by electronic components and boards (26.7%), computers and devices (25.9%) and telecommunication apparatuses (14.2%).

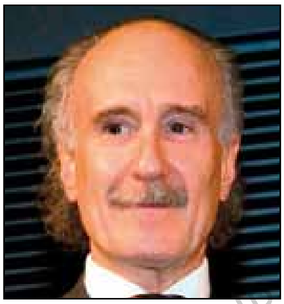
I
II
III
IV
V
VI
VII
VIII
IX

[11] Multimedia books (audio books, books on CD, etc.).

Interview

Ing. Adriano De Luca

Chairman and Managing Director of Green Bit S.p.A., company awarded with the "Premio Chiave a Stella" in 2009, a recognition for SMEs capable of successfully combining innovation and tradition.



Your company was established in 1989 for developing electric devices and has since focused on biometric and fingerprint technologies. How did this line develop?

I
II
III
IV
V
VI
VII
VIII
IX

Green Bit, established for developing special hardware and software made to specifications, was acquired in 1994 by Olivetti to supply a radiofrequency device applicable to the transport sector to the group subsidiary Tecnost. I acquired the company in 1997 and completely refocused on biometric and fingerprint technologies originally developed in Russia for commercial and industrial purposes. I purchased the industrial property of these technologies by financing the spin-off of new company called Vit Intec in Saint Petersburg from a primary Russian industrial group. In 2003, Vit Intec merged into our company and the entire R&D team specialised in biometric and fingerprint technologies moved to our plant in Grugliasco. From 2004 to 2006, new important partners, institutional funds and a new industrial partner joined the company and contributed to the financial consolidation of Green Bit, putting the company into condition to gain a leading position on international level. For ten years, we have worked in this sector exclusively and independently: today we have 27 employees in Italy, in addition to a steady team of freelancers who provide specific skills and expertise, three in Kazakhstan, two in Spain and 15 in China. The theme of human resource quality is fundamental. There are only three companies in the world in this sector (the other two are in the USA). We have developed an entire range of products (called Live Scanners) for detecting fingerprints, hand palm and back print without traditional ink developed using technologies owned and certified by the FBI. We own all the intellectual property of all product components. As a result of our state-of-the-art skills, we own three key Italian patents, one of which extended to the USA and Europe, three software copyrights and various trademarks.

What are the fields of application of your products?

We started to create, design and make Live Scanners for automatic fingerprint and palm print identification systems which are fully compliant with international specifications issued by the FBI. This was possible because of our knowledge in the optical-mechanical field and in the creation of algorithms and sophisticated fingerprint processing systems. We also designed and developed the software used to run these systems. Our customer-oriented approach, combined with our flexibility, has allowed us to acquire important commercial results for many national and international projects in the safety area (identifying criminals and illegal immigrants) and in the public administration area (for positively identifying citizens). These are the two main areas of applications on which we concentrate our technological growth efforts to provide increasingly more innovative answers to concrete problems. The first is for law enforcement while the second addresses a relatively new market, required after the tragic events of September 11, 2001, related to electronic ID cards on which the owner's fingerprints are stored. These two markets will develop greatly over the next 5-10 years.

Green Bit was awarded the "Premio Chiave a Stella" in 2009 because of innovation and excellence of products. What strengths led to this success?

Two: very advanced technology and rapidity. With respect to our competitors, we have invested a lot and at the same time we make our products in approximately half the time. Being small and focused on core business (Research & Development, Marketing & Sales and quality control processes), Green Bit is more cost-effective in terms of financial resources needed for self-sustainment with respect to competitors even through they invest more in R&D each year. In this scope, we have developed collaborations on specific topics with the Torino Polytechnic, in particular with the Laboratory of Electronics, which has been using our systems for access control for several years, Istituto Mario Boella and Torino Wireless.

Have you developed relationships with other companies working on the local market over the past years?

Green Bit owns the entire project and has three types of suppliers: basic technological component suppliers, optical component suppliers and subassembly suppliers. Nearly all the latter are all local and former Olivetti suppliers and some are Fiat suppliers, more specifically for design and casing. We have approximately twenty steady suppliers in Piemonte. Furthermore, all our production is outsourced, obviously by adopting strict quality control procedures and only the final assembly of small-series products with a high added value is carried out directly at our plant. For assembling larger productions we have selected a number of highly qualified *suppliers. For foreign markets, we have production plants in China and Kazakhstan and locally assemble all products using a local supply chain. With regards to optical components, we cannot directly cooperate with local companies because the suppliers of sophisticated optical technologies are mainly located in Russia and former soviet countries, eastern Europe and, for some elements, in China, where we have a company and a plant. Finally, the suppliers of basic technological components, such as chips and electro-optical sensors, can be counted on the fingers of one hand.*

What are the international markets of Green Bit?

Our market is highly specialised and our products are sold worldwide. The business model of Green Bit is by choice rigorously "B2B", that is we do not sell directly to end customers (public administrations and/or companies disseminated worldwide). Our customers are major international global players, prime contractors and system integrators working on the global market. We have a rather widespread network of agents and consultants who introduce us to local companies working for the public administration. As we mentioned before, our policy is to operate by providing products to end customers through local companies, prime contractors and system integrators, who in turn deals with capillary assistance to customers during supply and after-sales. We have chosen to invest and ensure our direct presence in four countries for different reasons: in the USA, to obtain quality certification because our two reference competitors are established and work in this country; in Kazakhstan, following a requirement expressed by local authorities by means of joint ventures, to be ready to introduce biometric systems in Central Asia; in Spain, with a branch to provide assistance for the significant number of devices installed for issuing new electronic identity cards; in China, initially with a joint venture and today with a subsidiary, to grasp the opportunities of the local market, highly focused on high-quality imported technologies, particularly if affordably priced. The subsidiary will be taking part for the second time since it was established in 2008 to "China Police", a biennale trade expo to introduce our new products made specifically for the Chinese market and compliant with Chinese reference standards. Furthermore, we have been invited to take part in Shanghai Expo 2010 with a highly evolved product for identifying citizen in streets, as further confirmation of the Italian innovative tradition.

The recession has hit the international economy and our province as a consequence. How did the biometric sector in which you operate react?

The recession has not re-dimensioned the market or the demand for biometric products but has caused public administrations to postpone projects by one year or more in average.

Obviously, as a result we have acquired fewer orders and decreased our profit, causing a decrease in revenue and a considerable worsening of punctual results above all in 2009. Our small size and optimised costs have helped us overcome the most difficult times better than our main competitors who are weighed down by much larger company structures.

1.10.4 The food and agriculture sector

The object of promotions for several years, the food and agriculture sector is one of the most significant supply chains in the region in terms of number of enterprises, degree of penetration on international markets and within the broader framework of consolidated local and national Italian excellences. There are nearly 65 thousand companies which to variable extent belong in the food and agriculture sector: farms (plant and animal products) account for nearly all the sector (approximately 93%), followed by food processing (6.2%) and beverages (0.6%). 22.7% of the region's food and agriculture businesses are located in the province of Torino (14,738): this percentage increases to over 40% for the food processing and beverage industry.

10% of total regional sales are exports: in 2009 farming and food products were exported for €3.3 billion, and despite a decrease with respect to the previous year (-8.5%), the sales balance was remarkably positive (+€742 billion); 16% of exports were produced in the province of Torino. Even during the recession of 2009, the slump in food and agriculture was more modest than other areas, thus at least partially confirming the countercyclical nature of this sector. The recession however mainly caused a drop in the prices of the main agricultural products and this affected the balances of companies and families directly involved in farming. Despite this, the export demand for high-quality local produce was much better than exports of production as a whole, which in 2009 decreased by -21.8% with respect to 2008.

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Table 9 The food and agriculture sector in Piemonte and in the province of Torino in numbers on 31 Dec. 2009

	PIEMONTE	TORINO	% WEIGHT OF TORINO ON PIEMONTE
Companies	64,848	14,738	22.7%
Exports (.000)	3,289.024	527.014	16.0%

Source: Chamber of commerce of Torino using InfoCamere and ISTAT data

Piemonte is a forerunner of the PDO [12] and PGI [13] denomination systems for promoting local food and produce quality. Of the 17 regional products recognised within the system, 13 are Protected Designation of Origin products and four Protected Geographical Indication products: these amount to 8.4% of the Italian total products recognised today[14] (202 in total, specifically: 127 Protected Designations of Origin and 75 Protected Geographical Indications). Well worth mentioning are

[12] PDO (Protected Designation of Origin, or DOP Denominazione di Origine Protetta) are agriculture and food products which come from a certain geographic area and which are produced, processed and prepared in the geographical area itself, the quality or features of which are significantly or exclusively determined by the geographical environment, including natural and human factors.
[13] PGI (Protected Geographical Indication, or IGP Indicazione Geografica Protetta) are original agriculture or food products which come from a geographic area, the quality or properties are significantly or exclusively determined by the geographical environment and the production, processing and preparation of which takes place within the determined geographical area. The link with the territory is thus present in at least one of either the production or the process processing or the preparation stages.
[14] March 2010.

the 369 traditional food and produce items carrying the PAT (Prodotto agroalimentare tradizionale, traditional agricultural and food product) brand. On the wine front, Piemonte is home to 44 DOC ("Controlled origin denomination") and 14 DOCG ("Controlled and guaranteed origin denomination") labels.

Table 10 PDO and PGI products in Piemonte

PRODUCT	TYPE	DENOMINATION
Bra	Cheese	PDO
Castelmagno	Cheese	PDO
Gorgonzola	Cheese	PDO
Grana Padano	Cheese	PDO
Murazzano	Cheese	PDO
Raschera	Cheese	PDO
Robiola di Roccaverano	Cheese	PDO
Taleggio	Cheese	PDO
Toma piemontese	Cheese	PDO
Crudo di Cuneo	Cured meat	PDO
Salamini italiani alla Cacciatora	Cured meat	PDO
Mortadella di Bologna	Cured meat	PGI
Salame di Cremona	Cured meat	PGI
Cuneo chestnut	Fruit & vegetables	PGI
Piemonte hazelnut	Fruit & vegetables	PGI
Baraggia Biellese and Vercellese rice	Cereals	PDO
Tinca gobba dorata del Pianalto di Poirino	Fish	PDO

Source: Regione Piemonte

The province of Torino has a consolidated top-end wine making tradition. This is a broad, variegated production territory, locked between Pinerolo and Valsusa to the west, the hills of Torino to the east, Canavese to the north and the city of Torino to the south. The province of Torino ranks fourth in the region and fifth in Italy in terms of surface cultivated in mountainous areas. It is home to no less than seven denominations of origin grapes used to make 25 different labels: these include some highly consolidated DOC labels, such as Erbaluce di Caluso, Caluso Passito, Erbaluce di Caluso Spumante and Carema, all recognised back in 1967 and Freisa di Chieri made in the hills of Torino, which received DOC denomination in 1973 (both dry and sweet varieties). These affirmed denominations have been joined more recently in 1996 by DOC Canavese (Rosso, Rosato, Bianco, Nebbiolo, Barbera) and DOC Pinerolese (Rosso, Rosato, Barbera, Bonarda, Dolcetto, Freisa, Doux d'Henry and Ramìe). Valsusa DOC was recognised in 1997, followed more recently by Collina Torinese (Rosso, Barbera, Bonarda, Malvasia, Cari and Pelaverga) in 1999. These top-end wines are mainly produced from autochthonous vines, often cultivated in so-called "marginal" areas. In particular, the vineyards of Carema, Valsusa and some towns in the Pinerolo and Canavese areas are true landscape gems, the result of centuries of hard work and one-of-a-kind human ingenuity. In this area of Piemonte, at the foot of the Alps and at some of the highest altitudes in Europe, vineyards need special care and everything counts: exposure, orientation of the rows, shapes and supports. A demanding, fascinating environment which has always produced outstanding wines, the expression of a difficult land capable of providing worthy, admirable results.

Approaching these wines is an invitation to discover the valleys and hills of this part of Piemonte and to learn to appreciate the authenticity of its products, to preserve the historical heritage of this land. A land which looks into the future and embraces Torino, protecting the city with its peaks and electing it as its fulcrum at the same time[15].

Table 11 Surface and DOC wine production of the province of Torino. 2009

DENOMINATION	CULTIVATED SURFACE (SQUARE METRES)	ACTUAL GRAPE PRODUCTION (KG)	ACTUAL GRAPE PRODUCTION (L)	EQUIVALENT BOTTLES (750 ML)
Caluso	1,533,584	1,217,569	826,982	1,102,643
Canavese	1,030,190	727,640	509,348	679,131
Carema	157,266	44,910	31,437	41,916
Freisa di Chieri	1,000,701	525,175	367,623	490,163
Collina Torinese	209,966	133,274	93,292	124,389
Pinerolese	685,243	262,997	184,098	245,464
Valsusa	108,477	47,725	33,408	44,543
Total	4,725,427	2,959,290	2,046,187	2,728,249

Source: Regione Piemonte

[15] For more information, see the third edition of the DOC wine guide to the province of Torino - "Torino DOC" - available from: www.to.camcom.it

SURVEY ON THE DIFFUSION OF COUNTERFEITED FOODS AND FRAUDS: THE PERCEPTIONS OF THE FOOD PROCESSING INDUSTRY

Given the negative impact of counterfeiting on national and local economy, the Chamber of Commerce of Torino as privileged economic observatory started analysing the perception of how diffused the problem was by specifically monitoring the food sector following indications reported by the Provincial Observatory on Counterfeiting[16].

The gradual increase of sales of counterfeit goods is rooted in globalisation and the huge development of world economy over the past decade. Expansion speed caused the need for continuous monitoring and careful evaluation of the deriving social and economic effects: negative repercussions range from decreased revenue of companies and GDP of the nation to lower tax revenue and loss of regular jobs. Important are also the consequences on consumers, injured in their trust in the products and services they buy and use, and in some cases even endangered. Recent OCSE surveys indicate that counterfeit products were worth $200 billion in 2005, corresponding to 7% of world trade. This amount would be much higher if products distributed on the domestic market and on the web were taken into consideration.

A recent Censis-Area-Aicol survey estimated counterfeiting to be worth €7.1 billion in Italy. The most counterfeited products are clothing and accessories (36.7% of the total counterfeit product market - €2.6 billion), CDs, DVDs, audio, video and software (23.2% - €1.6 billion) and food products, alcholic drinks and beverages (16.2% - 1.15 billion euro).

The Italian food industry has always been particularly vulnerable to counterfeiting because of its intrinsec features: firstly, it is the expression of a tradition and culture which is in itself a univocal brand and a recognition factor in the world, and secondly because it is closely linked to the territory and features high-end products.

Many "Made in Italy" products are therefore exposed to the risk of counterfeiting, particular on international markets and major efforts have been spent over the past years on regulatory, control and fighting level to minimise counterfeiting on the domestic market, specifically because of the risks for the health and safety of consumers it poses.

More difficult is operating on international markets, where the fame of our national products has given rise to so-called Italian sounding imitations, allowing the circulation of false food in stops and restaurants. Statistics on goods sequestered at European Union country boundaries and data provided by the Italian Customs Agency and NAS point to a gradual expansion of counterfeiting in the food sector.

[16] In order to define new, more incisive actions aimed at fighting counterfeiting and gathering more information to protect citizens and entrepreneurs, the Chamber of Commerce responded to the request made by the local Prefecture to monitor counterfeiting in the area by opening the Provincial Observatory on Counterfeiting, whose main activity (directed by a Steering Committee) is to specifically promote a common culture which warns of the risks inherent to buying counterfeit goods. The Observatory members are representatives of the most important local and national authorities, entrepreneurs and consumer protection associations, who are either directly or indirectly committed to fighting this dangerous, multifarious phenomenon.

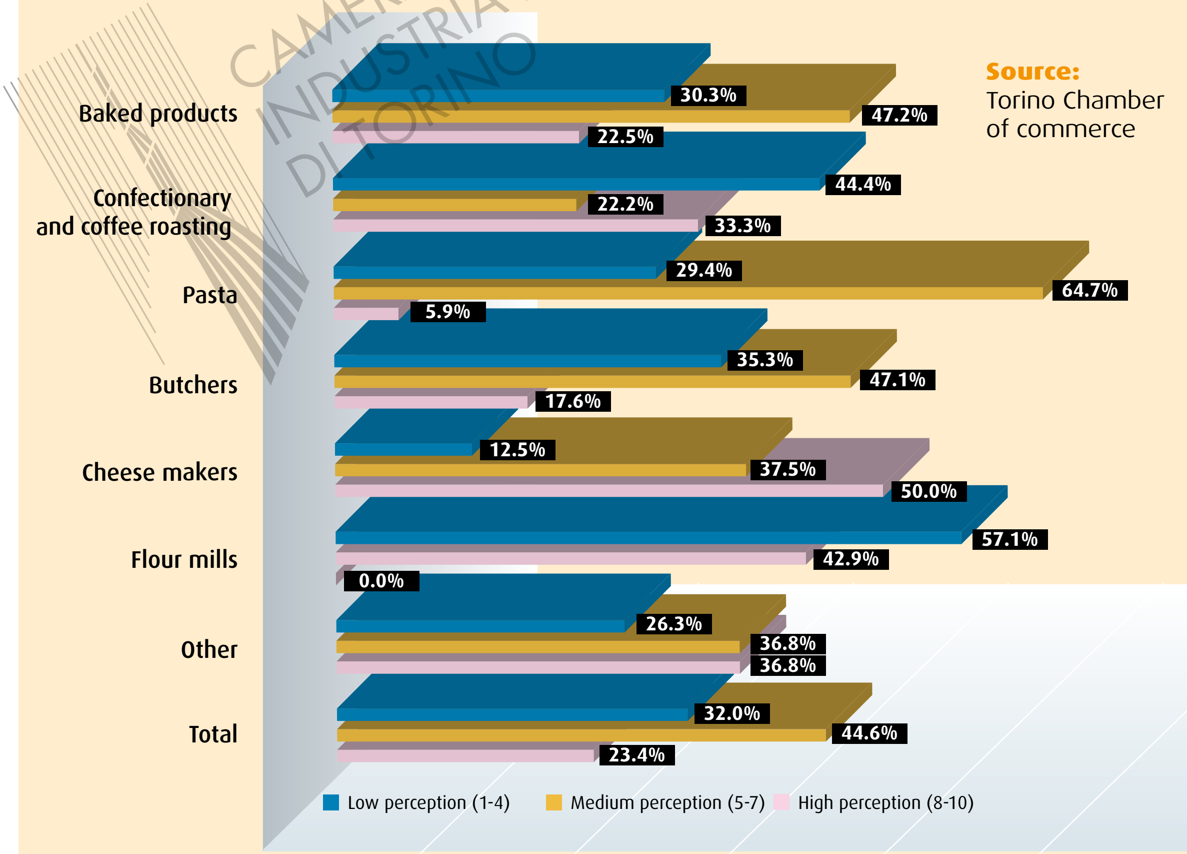
More specifically, in the food sector, the survey focused not only on counterfeiting sensu stricto (counterfeit identity, product age, false geographic origin, etc.) and on Italian sounding imitations, but also on food frauds, such as product adulteration, sophistication and alteration, as a consequence of the sometimes weak boundaries between the two aspects, as proven by the confusion regarding the various wrongdoings among consumers.

The survey, in which approximately 200 entrepreneurs from the food sector, mostly owners of craft enterprises, were interviewed indicated a widespread awareness on counterfeiting and food frauds. Enterprises were asked to rank their perception of the phenomenon, and on a scale from 1 (low) to 10 (high), 23% expressed a high ranking (from 8 to 10). A further 45% expressed an average opinion (from 5 to 7). Differences emerge from the breakdown by sector of activity: cheese makers are particularly sensitive (50% of replies of this subsector), understandably because these products are frequently imitated and damaged by fraud.

On the opposite front stand flour mills and confectioners expressing a ranking from 1 and 4.

The perception of counterfeiting appears inversely proportional to company size: only 12.5% of larger companies (with over 50 employees) expressed a high ranking with regards to food falsification, while this percentage nearly doubled for companies with less than 10 employees.

Perception on the diffusion of counterfeiting and other food frauds per sector of activity. % value on total answers from the sector



Source: Torino Chamber of commerce

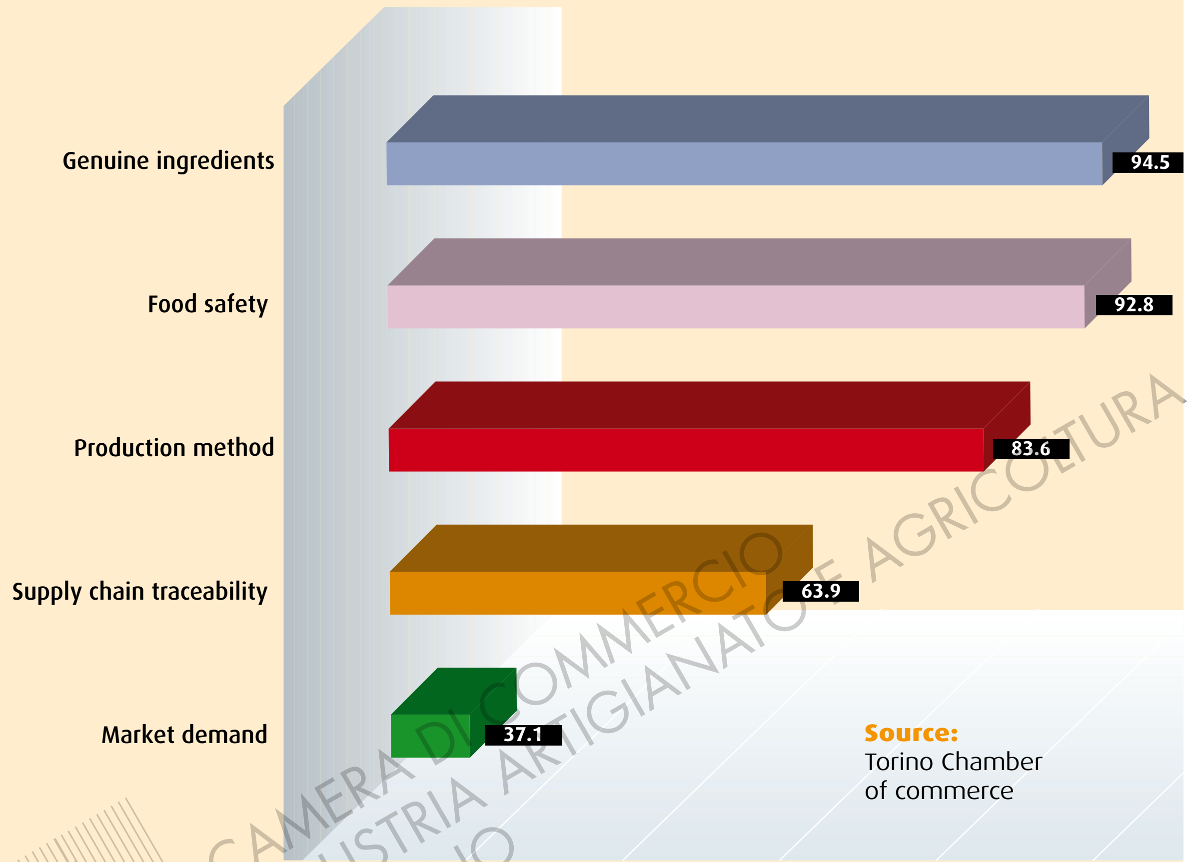
The choices of entrepreneurs for food production and packaging

Examining the aspects which guide producers in making and packaging food is interesting with regards to counterfeiting and frauds.

Protecting the health and safety of consumers is key, above all with regards to the choice of genuine ingredients, while market demands appears less important for entrepreneurs.

Attention is devoted to high-quality, traditional production methods, while less importance is attributed to supply chain traceability, i.e. allowing to track single products from production to final marketing.

Evaluation of the main aspects of the food production process.
% of "high" ranking on the total answers



By the side of the aspects more directly connected to food production, packaging is also crucial in identifying, guaranteeing and protecting the food which ends up on the dining table. Protecting and preserving products and use of food-grade packaging is considered very important (ranking very high in nearly all answers). Convenience of use, labelling and product information is ranked high (90% of the highest opinions), while appearance and advertising value rank low. Ecological awareness among the companies of the examined sample is still poorly developed: only 33% declare that the environmental impact of packaging is priority.

Food frauds and protection policies

As mentioned, Italy is one of the countries most involved in fighting counterfeiting - and food counterfeiting in particular - using various tools - both regulatory and monitoring - to reduce risks for consumers. Confirming that the perception of food counterfeiting is medium to high, equally high is the importance of protection: for 78% of the interviewed companies, fighting counterfeiting is very important (with a score from 8 to 10) vs. 9.5% for whom this need is less important (score from 1 to 4). Cheese makers express the highest need for protection but higher than average values are also expressed by butchers and bakers.

Although the perception of diffusion of counterfeiting decreases as company size increases, companies with more employees attribute more importance to food counterfeiting protection policies: all the interviewed companies with more than 50 employees assigned a medium to high score to the importance of prevention, unlike the smaller companies which expressed medium to low scores.

62% of interviewed companies declared to implement an adequate counterfeiting protection campaign. Specifically, actions used to protect from counterfeiting include the adoption of quality certifications and company trademarks (25.7% and 20.8% of answers, respectively), using DOP, IGP and DOC denominations (15.3%) and collective trademarks (10.4%). Less frequent is joining protection consortiums, filing patents and ornamental designs/models of packaging.

Differences of behaviour between sectors appear with regards to protection: for example, quality certification is indicated by 36% of the interviewees in the bakery sector and by 14% of butchers; 42% of butchers asked for assistance of a protection consortium, which solution on general level did not rank high (6.6%). DOP, IGP, DOC trademark protection is considered very important by cheese makers, while company trademarks are considered important by confectioners and coffee roasters (both 21.4%).

Counterfeiting and other frauds suffered by enterprises

Although marginal, the cases of counterfeiting and other frauds suffered by enterprises during the past 5 years are worrying events and well worth analysing.

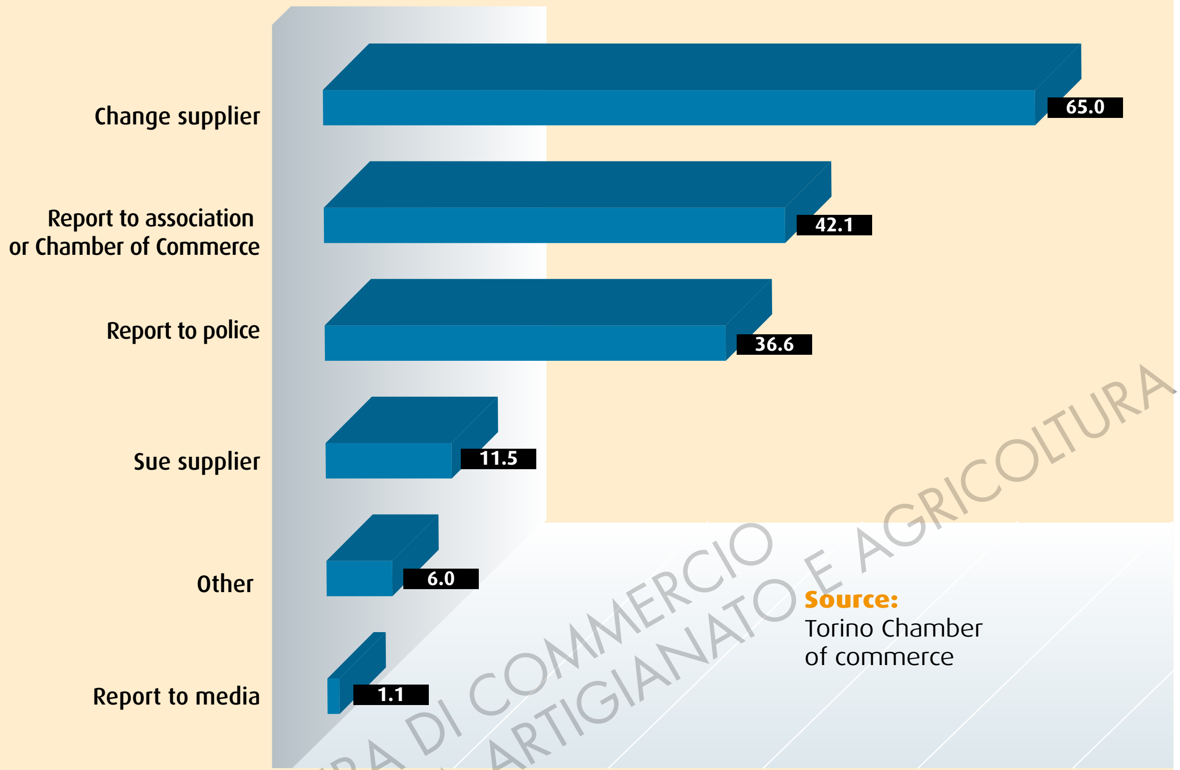
Nine enterprises (little more than 5% of the interviewees) were victims of counterfeiting or fraud during the five year period: most wrongdoings concerned illicit use of patents by third parties; two cases concerned illicit indication of protection zone and product replacement with one of lower cost. Approximately half of the damaged companies suffered negative consequences on their image. Other damages, although to a lesser extent, included decrease of revenue and lawsuits or prosecution. Despite the low percentage of counterfeiting or fraud reported, the perception that cases have increased during the past five years is high (86% of answers): once again, this points to the need for adequate protection policies and sensitivity on the matter.

Breaking down the opinions on entrepreneurs on the growth rate of counterfeiting and frauds by sectors of activity, nearly 100% of pasta makers, confectioners and coffee roasters say the phenomenon is on the rise, while the percentage is lower for flour mills, cheese makers and butchers.

Actions against counterfeiting and frauds suffered by enterprises

Considering the high perception of interviewees with regards to the increase in number of cases and counterfeiting and frauds during the last five years, the survey asked entrepreneurs what actions they would adopt if they discovered to have unwittingly purchased a counterfeit food product. The most chosen solution is to change supplier (65%), followed by reporting to trade associations or the Chamber of Commerce (42%) and the police (37%). Only 12% of entrepreneurs would consider suing the supplier of counterfeit goods, while media actions were the least popular option.

Possible actions taken by enterprises in case of counterfeiting and fraud
(% of the total, multiple answers)



Breaking down by sector of business (multiple answers were possible), bakeries were more likely to change supplier (42%); very high interest was attributed to reporting to trade associations or the Chamber of Commerce (28%) and to reporting to the police (23%); very few would sue the supplier (2.6%).

In the confectionary and coffee roasting sector, reporting to trade associations was the most popular choice (34% of the answers), ahead of changing supplier (28%) and the option of suing the supplier gathered higher consent (13%).

Over half of pasta makers and butchers would change supplier if they unwittingly purchased a counterfeit product. The opinions expressed by cheese makers were more differentiated: changing supplier still ranked first (38%), but suing gathered 20% of preferences. A similar behaviour is adopted by flour mills.

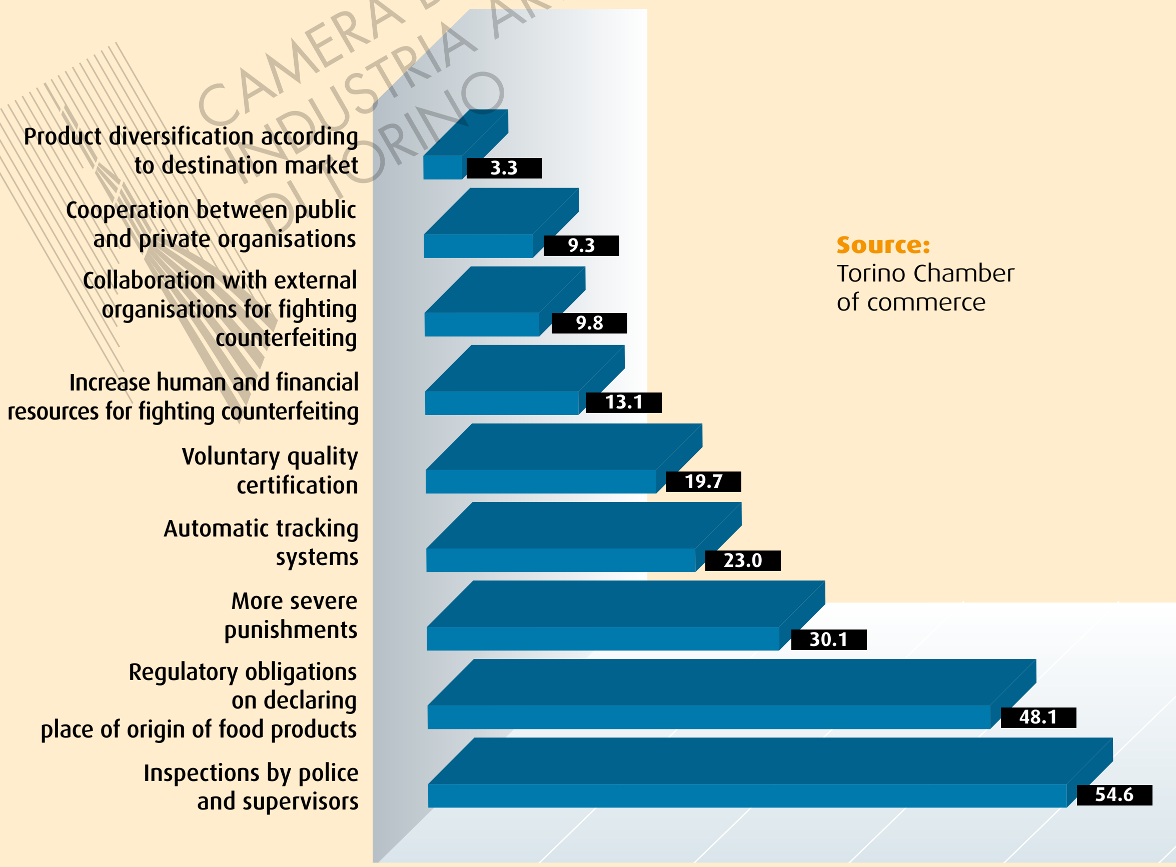
The same analysis conducted on dimensional level indicated that more than 40% of the smaller companies would change supplier. This action was less important for medium-sized companies (37%), while suing the supplier was more popular (14%). Among companies with more than 50 employees, reporting to the police and changing supplier was the most popular choices (29% and 36%, respectively).

In combination with the protection policies implemented within companies, the fighting actions and methods which can be activated from the outside are equally important.

The methods deemed most effective include inspections by the police and supervisors, which ranked first for companies (55% of the answers), thus underlining the strategic role of authorities in control and the trust reposed in them.

High importance was also attributed to extending the obligation of indicating the place of origin of all food items (48%) and the application of more severe punishments for who produces, sells and buys counterfeit goods (30%). Innovative systems, like automatic tracking, allowing to follow each item from production to sales, gather 23% of preferences and a slightly lower percentage is attributed to voluntary quality certification. 13% of the answers concerned increasing human resources and funds needed for fighting counterfeiting. Lower but more significant is the interest expressed for collaborations with external organisations for fighting counterfeiting (e.g. chemical laboratories) and the cooperation between public and private organisations for creating local and international work teams collect approximately 10% of consent. Marginal as method is product diversification according to market of destination.

Effective methods for fighting counterfeiting and fraud
(% of the total, multiple answers)



Source: Torino Chamber of commerce

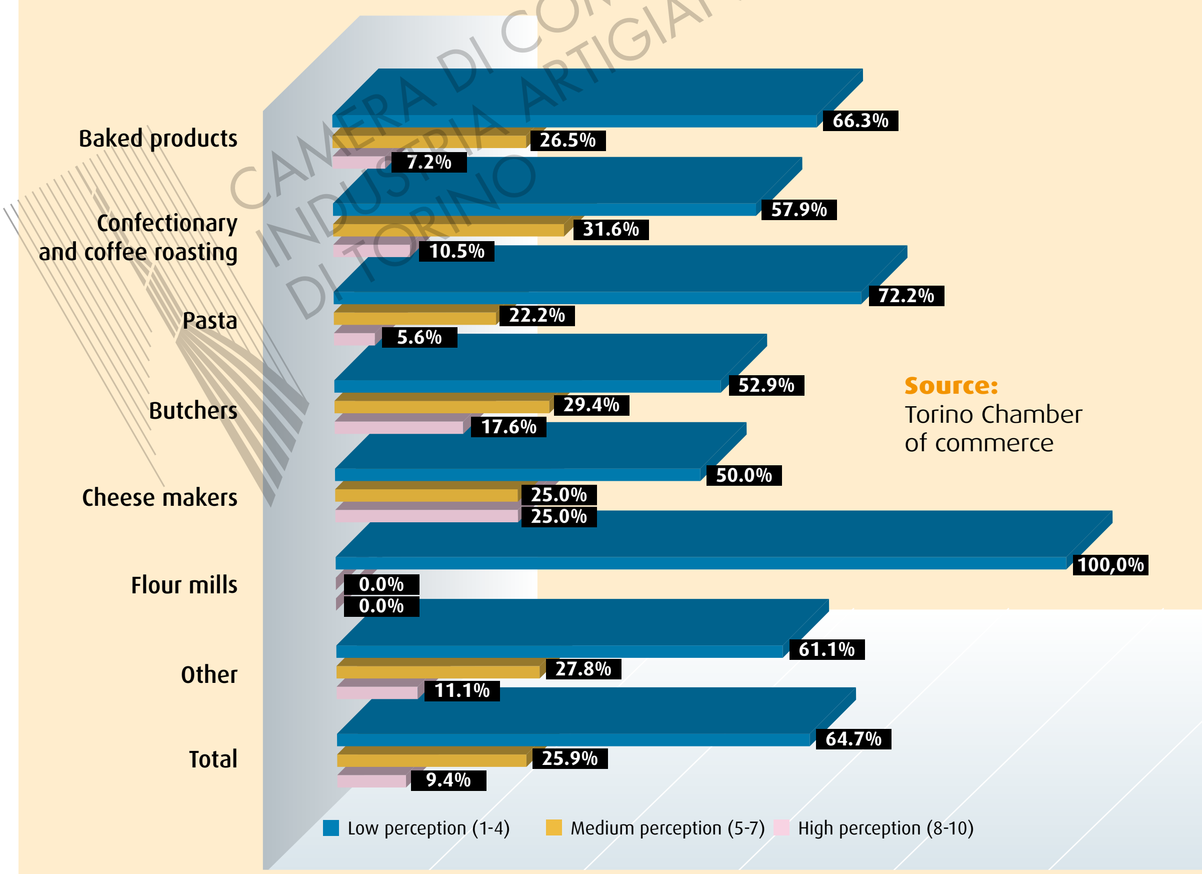
Food counterfeiting and foreign markets

Particular attention is devoted today to Italian sounding imitations and economic repercussions on products "Made in Italy". For this purpose, the survey investigated how real this threat actually was for exporters and for the domestic market.

Over 80% of the interviewees do not export. Those who do sell main in Europe (France, Germany and Switzerland). Outside Europe, the first market is the USA. The sectors with the most exporters are confectionary and coffee roasting (58%) and cheese makers (50%); the lowest percentage of exporters are bakers (only 4.4%).

Breaking down the result by size, 62.5% of companies with more than 50 employees exports while the percentage decreases to 8% among those with fewer than 10 employees. Evidently, exporters are most directly exposed to the problem and feel most threatened by Italian sounding imitations (32% expressed a high score compared with 6% of non-exporters).

Degree of exposure to Italian Sounding imitations by sector of business
% on total answers of each sector



The sectors most sensitive to the issue, which is particularly damaging for national exports, are cheese makers (25%), the meat industry (18%) confectioners and coffee roasters (11%); on the opposite front stand flour mills, for which the problem of imitation scores low (score from 1 to 4). A low perception is also expressed by pasta makers and delicatessens (72%) and bakers (66%).
The results of the investigation and more information on the perception of diffusion expressed by consumers and distributors are available on the Chamber of Commerce website at: http://www.to.camcom.it/contraffazione.

1.10.5 Design

Torino was the first World Capital of Design in 2008: it was a year full of international, national and local events (over 180) based on four main themes: design and collectivity; design and enterprise; design and training; design and development policies. One year later, activities for promoting design were still being organised in the province. This was no chance considering that some of the products which have characterised the last fifty year of our life were created here: from Olivetti portable typewriters and Aurora fountain pens to car design by coachbuilders of world fame (such as Giugiaro, Pininfarina and Bertone) and Lavazza coffee. The province of Torino offers important education options with design courses being held by the Polytechnic and specialised schools (Istituto Europeo di Design and Istituto di Arte Applicata e Design) for discovering new talents.

The continuous search for new ideas and the great opportunities for young designers in automotive design converge in the biennale Stile Italiano Giovani competition, that offers young designers from around the world an opportunity to develop new solutions for automotive exteriors and interiors (the next edition will be held in 2010).

Design does not only concern the creation of goods and services which can improve or change our life but is also culture. For this reason, Torino Design Week was organised in November 2009 to promote the culture of design and pick up some of the momentum of Torino World Design Capital.

Design was the protagonist in Torino for a week brimming with events involving local institutions and representatives of the main design centres in debates and workshops on the theme. The first international Self-Produced Design Trade Expo will be held in 2010.

With regards to economic data, the survey conducted on design in Piemonte at on the eve of the 2008 event by the Chamber of Commerce of Torino revealed a universe of 624 enterprises, of which nearly 50% were concentrated in the province of Torino. Torino thus emerges as the centre of gravity of Piemonte because nearly two thirds of the region's revenue is located in the area. The regional universe of design-related companies appear divided into B2C (business-to-consumer) enterprises, which make items directly marketed to end consumers, and B2B enterprises (business-to-business), which instead make high-end design products, sold to other companies of the supply chain.

There are six fields of application of design-related companies, the last of which is in actual fact a conglomeration of emerging sectors[17]:

- industrial design (43.3%)
- automotive design (6.7%)
- graphic design and communication (11.9%)
- interior design (8.3%)
- fashion design (6.4%)
- culture and territory design (4.0%).

[17] 19.4% of companies without a specific field of application must be added to the total.

The two most important sectors in Piemonte are industrial design and automotive design.

As easily imagined, automotive designs count few enterprises in terms of absolute numbers but a much higher specific weight in terms of revenue (26%) and personnel (16.4%).

The InfoCamere Stock View database shows a subset of design-related enterprises (ATECO2002 code 74875, design and styling related to textiles, clothing, footwear, jewellery, furniture, other personal items and household goods), thus conforming the key role of design in the province of Torino. On 31 December 2008 (the last available data), there were 206 enterprises in this sector in Torino, over half of those of the entire region, with an increase in numbers equal to 9.6% compared to 2007. This variation was higher than the regional (+7.5%) and the Italian average (+5.1%).

Table 12 Design e styling enterprises

	2008	2007	2004	VAR% 2008/2007	VAR% 2008/2004
ALESSANDRIA	36	36	31	0.0%	16.1%
ASTI	13	11	5	18.2%	160.0%
BIELLA	18	17	14	5.9%	28.6%
CUNEO	26	21	18	23.8%	44.4%
NOVARA	23	25	22	-8.0%	4.5%
TORINO	206	188	148	9.6%	39.2%
VERBANO CUSIO OSSOLA	5	6	9	-16.7%	-44.4%
VERCELLI	4	4	2	0.0%	100.0%
PIEMONTE	331	308	249	7.5%	32.9%
ITALY	4,851	4,614	3,783	5.1%	28.2%

Source: Chamber of commerce of Torino on InfoCamere data - Stock View database

Interview

Matteo Tampone and Pierpaolo Barra

Founding partners (with Andrea Righetti) of Profilo Design S.r.l.

What is the history of Profilo Design?

Our company history started at the beginning of 1999, when we decided to start working as freelancers and open an industrial design and integrated communication studio, mainly addressing the Italian market. Strong of our experience and enthusiasm, although relatively young and unequipped to tackle the difficult world of management, we successful built a place for creating and constructing where we can develop complete, new design solutions by interpreting, stimulating and sometimes anticipating our customers' needs.

How are you organised?

Today, the studio is managed by three partners. Without loosing sight of the objective of creating a place where to fuse specific design features, we have chosen to split up our areas of expertise: Matteo Tampone deals with communication strategies; Pierpaolo Barra deals with architecture and materials while Andrea Righetti coordinates physical design and numerical modelling. The difficult global economy obviously affected us and consequently we could not expand and hire new people as we wanted to. We are optimistic for the future. Something has changed however in our studio during the past year: we had to split our time between design (our core business) and our first self-produced project, a motorcycle helmet with a strong emotional impact called "Torneo".

The "Torneo" project is an example of a development from design to successful entrepreneurship. What steps led you to make this successful project?

We starting from the notion that unquestionably today crash helmets are clothing and fashion accessories in addition to being mandatory safety equipment. Furthermore, use is becoming more frequent as a consequence of the increasingly widespread reliance on scooters and small motorbikes in cities. The "Torneo" project fits perfectly into this flourishing market as alternative to the banal, usual and ordinary. With resounding wins in mind and after having conducted in depth market surveys, we identified sport as the ideal theme. The "Torneo" project is a collection of jet helmets which combine two common objects in one: a crash hel-

met and a ball, the symbol of sports par excellence. The objective was to generate pleasant, ironical emotions, to communicate a sense of belonging and freedom, and to develop a new interaction between object and user by transferring balls from their usual context to the world of motorcycling.

Did you need to patent your ideas? And what is the relationship between design, creativity and patenting?

Before launching our product on the market, we chose to patent the project on national and international level, with particular focus on the all important markets of USA, Japan and Korea. We filed two patents: the first of the ornamental type (design and model) focuses on the game ball icon transferred to a motorcycle crash helmet and the second of the invention type concerning the special "soft touch" coating. This is a coating system which uses synthetic material to simulate the materials used to make various types of balls (coupled with a soft compound) and faithfully reproduces the texture of balls used in various sports disciplines on the helmet. From our point of view, we are firmly convinced that creative ideas - that is design - must be patented. Patents are not only tools to legally define products from counterfeiting but determine the added value of products made by the customer. This is even more so in the case of self-produced projects, in which the involvement of designers may require efforts from both the human and economic points of view which directly impact enterprise management.

How did you identify the production, distribution and sales channels for "Torneo"? And what relationships have you established with local enterprises?

We turned to a number of suppliers who had worked with us for creating the prototype for producing the helmet. We follow the entire production supply chain, from production of the various components of the helmet and its assembly. All our suppliers are picked for their high quality standards and most of them are located in the region. For our helmet we believe that focusing on quality and on Italian production was important to obtain a product which is truly "Made in Italy". "Torneo" was introduced for the first time at the 2008 edition of the International Cycle and Motorcycle show and was remarkably successful among visitors and insiders. The interest provoked during the event generated commercial relationship for product distribution in various countries across Europe, which continued to developed long after the Milan Show closed. The success obtained by our products awoke the interest of several national and international sports club who contacted us to have customised "Torneo" helmets made.

Do you have distributors in Europe?

While the product was being developed we set up collaborations with distributors in Spain, France, Switzerland, Austria and Belgium. On international level we have started relationships with Japan and negotiations for importing our products are currently underway. The US market certainly has great potential but access is made difficult due to a very strict type-approval procedure which requires huge investments.

What are the future prospects for "Torneo"?

This first year was a test. We will be outlining the possible developments of this new adventure of ours in the immediate future. We are currently evaluating two possible scenarios: either an external financier to help us through the recession or selling the project to a company who wants to take on production process and marketing as a whole. An alternative could be creating an independent company for the "Torneo" project in which we will be involved for the R&D part.

What other areas do you address besides "Torneo"?

The "Torneo" project was an opportunity to tie new business relationships with various companies that asked us to design a customised version of our helmet. Besides "Torneo", we acquired experience in a variety of very different areas over the years, from accessories and professional equipment for hairstylists and spas to household appliances, lighting systems, toys and items for children. For example, "Canavese Connexion" spurred the creation of a very interesting project. The event consisted in linking up with a manufacturer of headsets for call centre operators. To innovate the production range of this company, we created a "life-saver" helmet for construction site workers with interphone inside for communicating with one another in case of accident and being localised using a triangulation system that indicated the exact position of the injured person on a monitor.

What are the greatest difficulties for a designer creating enterprise ideas?

We always have plenty of ideas, the problem is money. We are not a big company and we consequently have restricted access to bank loans. Furthermore, we need to find someone who strongly believes in the project underway and decides to invest in it. Firstly, we sell ideas and projects and then ask for funding to make and develop something which is, in principle, much less concrete than buying - say - a piece of machinery. Furthermore, we have started many projects which did not receive the success they deserved because the companies to which

they were presented were not ready or well structured enough to support the new product with adequate distribution and marketing policies. Without detailed investment planning, a good product will not have the success it deserves potentially on the market.

Do you relate with local authorities?

We had a good experience with Piemonte regional authorities and Chamber of Commerce of Torino, in the scope of meetings organised between local designers and companies from the French Rhône Alpes region, to support design and create important business opportunities across the Alps. This was when we met a French company with which we are actively working today. "Canavese Connexion" was also a very interesting experience because institutions organised and financed the event. Designers were refunded for the expenses they sustained for developing the assigned project. Similar experiences were less successful precisely because of lack of project funding. Local actions are always positive and very important, but everyone involved must be adequately incentivised, from designers, who are most in need of economic support, to companies, which must be contacted and spurred because they increasingly more often tend to fossilise on their own know-how.

I II III IV V VI VII VIII IX

Economic results

The economic indices allow us to estimate the speed at which a certain area is developing, in terms of the wealth produced by the local manufacturing system and the level of economic well-being of the general public.

Torino and Piemonte have always contributed significantly to Italy's economic results: the purpose of this chapter is to assess the impact of the region and province on the entire national economy, against the backdrop of international macro-economic developments, particularly in the light of the crisis that has crippled the global economy for more than a year.

2.1 The main indices of the economic results of the territory

The latest statistics available from Istat regarding Italian regional economic results show that in 2008 Piemonte generated a gross domestic product of over €126.8 billion, corresponding to 8% of the entire wealth created on a national scale.

The economic crisis that began in the Autumn of 2008 brought a significant reduction in worldwide GDP in 2009 (-4.2%). In Italy, this contraction reached –5%, and –5.1% at a regional level. The IMF (International Monetary Fund) forecast in April 2010, indicates that 2010 should close with a 4.2% rise in worldwide GDP; the increases for the EMU (European Monetary Union) and for Italy are expected to be much smaller (0.7% and 0.6% respectively). According to analysts, in 2010, Piemonte's GDP should be in line with Europe and the rest of Italy.

Regional added value at current prices in Piemonte was estimated at €112,016.1 million for 2007. This is the difference between the value of the production of assets and services by individual manufacturing sectors, and the value of intermediate assets and services consumed by the same, and defined as the aggregate that allows us to appreciate the growth of the economic system in terms of new assets and services made available to the community for end uses.

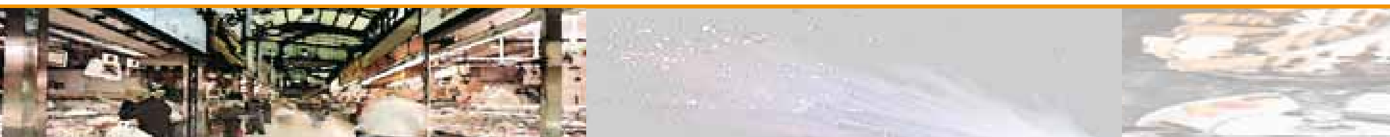
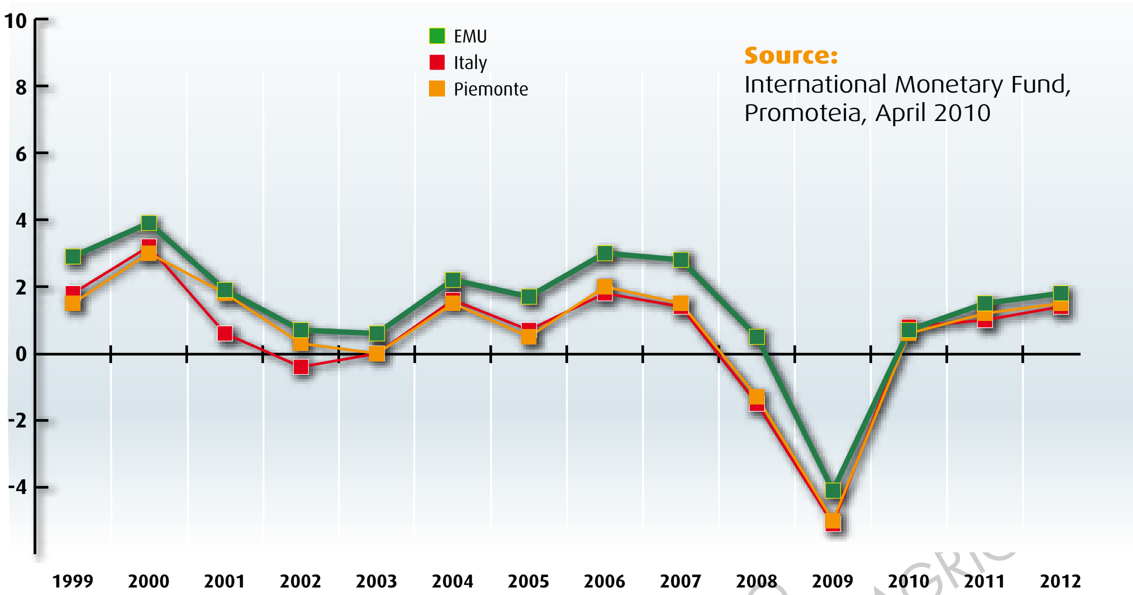


Chart 17 Piemonte: annual growth of GDP 1999-2012



At a **provincial level**, the GDP[18] for Torino, calculated by the Guglielmo Tagliacarne Institute, was valued at €66,835.1 million in 2008 at current values, which represents a 1.2% increase in current value on 2007. This result puts the province in third place among the 103 Italian provinces, for its contribution to the national wealth, preceded only by Milan and Rome. The added value of the province in 2007 amounted to €58,954.6 million at current prices, 3.8% up on end 2006.

Table 13 Added value at current prices by sector of economic activity. 2007 In €/millions

AREA	AGRICULTURE	INDUSTRY			SERVICES	TOTAL
		INDUSTRY IN STRICT SENSE	CONSTRUCTION	TOTAL INDUSTRY		
TORINO	346.0	14,424.7	2,760.2	17,184.9	41,423.7	58,954.6
PIEMONTE	1,746.1	28,577.8	5,748.1	34,325.9	75,944.1	112,016.1
NORTHWEST	5,649.0	116,537.3	24,871.6	141,408.9	299,265.1	446,323.0
ITALY	**28,341.1**	**296,032.0**	**84,101.0**	**380,133.0**	**972,975.0**	**1,381,449.1**

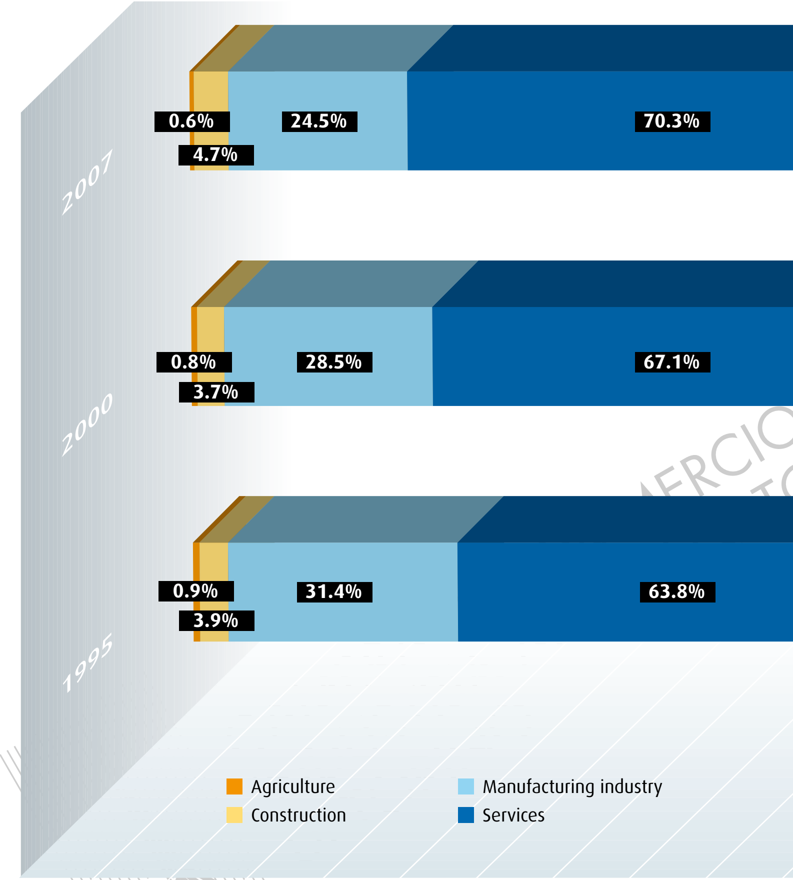
Source: Elaborated by Unioncamere-Guglielmo Tagliacarne Institute

The service sector makes the greatest contribution to the wealth produced in the territory: in the last ten years, the weight of the service sector in the province of Torino has grown steadily, and already accounts for over 70% of the provincial added value.

[18] The values for provincial GDP are expressed at "market prices"; they are calculated by adding together the added value "at basis prices", the total VAT and other indirect taxes (net of contributions paid by the Public Authorities) levied on total products and related imports.

In this same broad period of time, in the industrial sector, the weight of industry in the strictest sense of the term also decreased, although “construction” consolidated its position.

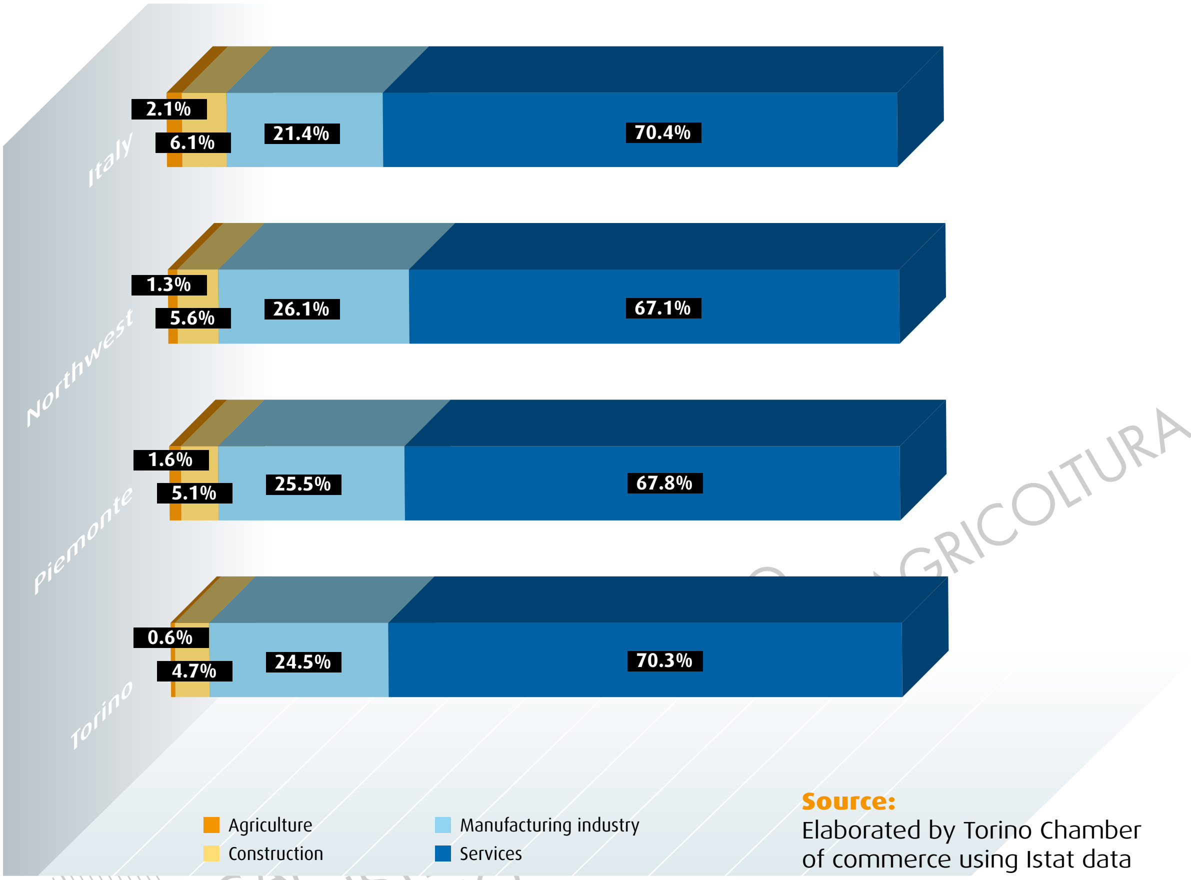
Chart 18 Breakdown of added value by economic sector of activity in the province of Torino. Year-on-year comparison



Source:
Elaborated by Guglielmo Tagliacarne Institute using ISTAT data

The breakdown of added value by sector of economic activity in 2007, analysed at different territorial levels (province, region, Italy), confirms the importance of the service sector for the composition of provincial added value: the sector’s contribution is on a par with the national average (70%) and well above the averages for both the Northwest (67%) and the whole of Piemonte (67.8%).
Over the years, the role of industry and its contribution to the creation of wealth in the territory have decreased, while the role of services has grown in importance, but from 2006 to 2007 industry recorded a much larger increase than that of services (respectively +7.3% and +2.4%). The good performance of the sector is due above all to the growth of the manufacturing industry (+7.6%), whereas the contribution of the building sector decreased again (-5.8%).

Chart 19 Breakdown of added value by sector of economic activity in 2007. Territorial comparison



Source:
Elaborated by Torino Chamber of commerce using Istat data

In the period 1998-2009 the inflation rate[19] in the city of Torino remained above the Italian average, with a few exceptions.

In 2009, the FOI consumer price index was 0.5%, without tobacco consumption, compared to a national average of 0.6%. After the price increase in 2008, followed by a slowdown in the final part of the year that corresponded with the start of the crisis on the international markets, there was a general decrease in the price of the principal consumer goods in 2009. Where the consumer price index for the city of Torino is concerned, whether we take the value for the entire population or only that for households of white and blue collar workers, in the first eight months of the 2008-2009 period, the percentage growth of the index on the same months of the previous year remained below the national value. On the other hand, the FOI index for the city of Torino was above the national average in the final part of the year.

[19] The consumer price index is a statistical instrument that measures the changes over time in the prices of a number of goods and services, known as a "basket", which is representative of the actual consumption of households in a specific year. Istat (the National Statistical Institute) produces three different consumer price indices: for the entire population (NIC), for blue and white-collar worker households (FOI) and the harmonised European index (HIPC).
The NIC measures inflation for the entire economic system; in other words, it considers Italy as if it were a single large household of consumers, within which spending habits obviously very widely. For the Government, the NIC is the reference parameter adopted as the basis of its economic policies; for example to indicate the programmed inflation rate to which collective labour agreement renewals are linked in the DPEF (Finance and planning document).
The FOI refers to overall consumption by households at the head of which is an employee (not agricultural).
This is the index used to periodically adjust monetary values, for example rents and allowances to separated spouses.
The HIPC was developed to provide a means of measuring inflation that is comparable all over Europe. It is used as an indicator to verify the convergence of the economies of EU member countries, and to grant access to and a permanent place in the Monetary Union.

Table 14 Consumer prices for the FOI territorial basket (blue and white-collar worker households) (*) Average annual % change, 1998-2009

YEAR	TORINO	ITALY
1998	2.0	1.8
1999	1.7	1.7
2000	3.4	2.5
2001	2.9	2.8
2002	2.7	2.3
2003	2.8	2.5
2004	2.8	2.2
2005	2.4	1.9
2006	2.3	2.0
2007	2.0	1.7
2008	3.6	3.2
2009	0.5	0.6

Source: elaborated by Torino Chamber of commerce using Istat data

* without tobacco consumption

Table 15 % change in the consumer price index (*)

	FOI (BLUE AND WHITE-COLLAR WORKER HOUSEHOLDS				NIC (WHOLE POPULATION)			
	CITY OF TORINO		ITALY		CITY OF TORINO		ITALY	
	2008/2007	2009/2008	2008/2007	2009/2008	2008/2007	2009/2008	2008/2007	2009/2008
January	3.3	1.5	2.9	1.5	3.2	1.6	2.9	1.6
February	3.3	1.2	2.9	1.5	3.1	1.4	2.8	1.6
March	3.5	0.7	3.3	1.0	3.5	0.8	3.3	1.1
April	3.7	0.5	3.3	1.0	3.7	0.5	3.3	1.1
May	4.1	0.2	3.5	0.7	4.1	0.4	3.6	0.7
June	4.2	0.1	3.8	0.4	4.3	0.2	3.9	0.4
July	4.5	-0.4	4.0	-0.1	4.5	-0.1	4.0	0.0
August	4.4	0.0	3.9	0.2	4.4	0.0	4.0	0.1
September	3.9	0.2	3.7	0.1	4.0	0.3	3.7	0.1
October	3.6	0.4	3.4	0.2	3.7	0.5	3.4	0.2
November	2.7	0.9	2.6	0.7	2.8	1.0	2.6	0.7
December	2.3	0.8	2.0	1.0	2.5	0.8	2.2	1.0

Source: Istat

* without tobacco consumption

I
II
III
IV
V
VI
VII
VIII
IX

2.2 Spending by Torino households

The annual survey of spending by households in Torino conducted by the Torino Chamber of Commerce, with Ascom and Confesercenti, offers an opportunity for a detailed analysis of consumption by households living in the Piedmontese capital.

The survey examines a sample of 240 households all resident in the city of Torino and the metropolitan area, who were asked to use a purchase book in which they summed up current expenses by the household during the week under examination, and a questionnaire in which they noted down more long-term expenses (e.g. for durable goods, accommodation, etc.). The sample proportionally reflects the distribution of households in the city of Torino according to certain significant and representative characteristics: the size of the household, the composition of the household (single, couple without children, couple with children), the income categories, education level, state of employment or unemployment.

In **2008** the average monthly expenditure amounted to **€2,586**, a 6.1% increase on 2007 in nominal terms. An average of almost **€297 a month** was spent on **food**, in line with 2007; on the other hand, **non-food spending** amounted to **€2,290 a month** (+7%). One quarter of food spending went to purchase “fresh and cured meat” (24%); followed by “bread and cereals” and “milk and cheese” (both 15%), “confectionary” (11%) and “vegetables” (11%). Spending on “fruit” (8%), “beverages” (7%), “fish” (6%) and “oils and fats” (3%) was less significant.

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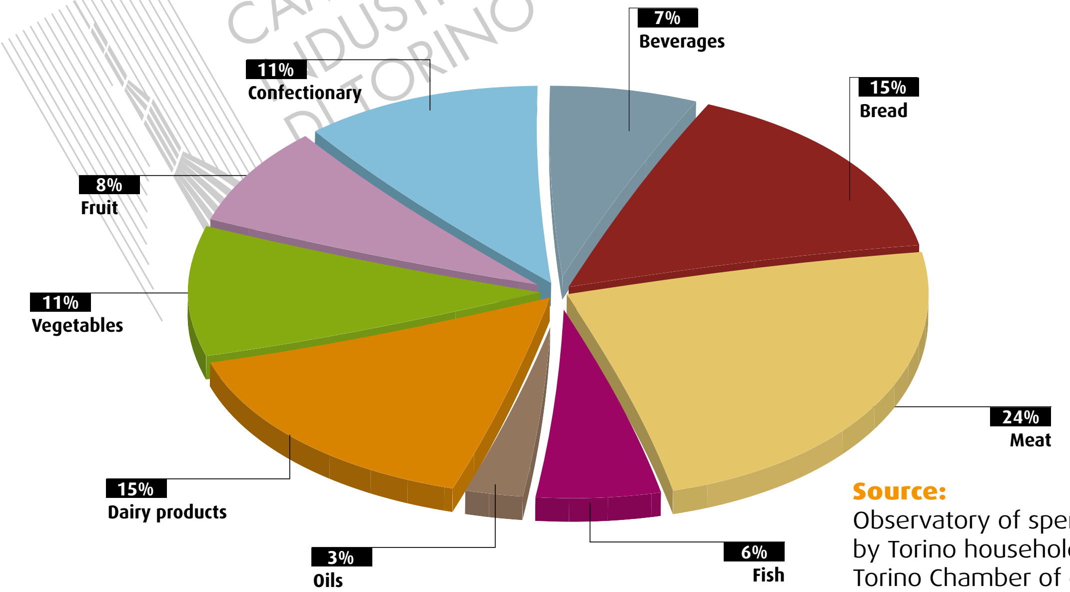
II
III
IV
V
VI
VII
VIII
IX

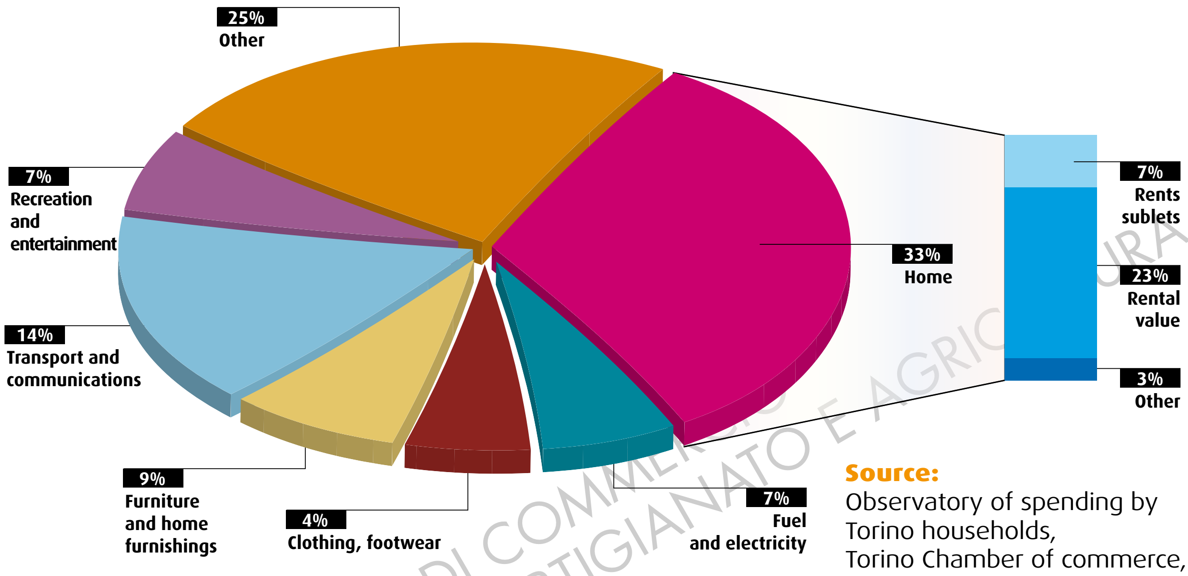
Chart 20 Food spending in 2008 - % values



Source: Observatory of spending by Torino households, Torino Chamber of commerce, Ascom, Confesercenti

Where non-food spending is concerned, the home accounts for the largest share (33%, €756), followed by transport and communications (€366 a month, excluding car purchases), furnishings, household appliances, household items and domestic services (€229), and fuel, electricity and various domestic utilities (€160). Spending on healthcare (€91) and clothing (€114) were practically stationary, while spending on leisure time increased: €183, continuing the upward trend of recent years (€148 in 2007, €135 in 2006 and €128 in 205).

Chart 21 Non-food spending in 2008 - % values



Source:
Observatory of spending by Torino households,
Torino Chamber of commerce,
Ascom, Confesercenti

The size of the household and the employment status of the head of the household have a direct influence on consumption. Living with someone else helps to save money: someone who shares expenses with one other person saves an average of 24% compared to a single person, someone in a household of two other components saves 40%, and someone who lives with three or more other people saves 48%. The average consumption of households with a head who is not employed (the majority of the sample in this category belonged to the "retired" segment) is 18% lower, while white-collars and the self-employed spend 10-30% more. The peak is represented by businesspeople and independent professionals, who consume 63% more than other households.

The **place of purchase** usually chosen by households to buy the various types of goods was also analysed. Households prefer **supermarkets** and **hypermarkets** in 45-50% of cases to purchase food such as pasta, biscuits, tinned and frozen foods, and non-food items such as household and personal cleaning products. These products are also purchased in **minimarkets** (30-35%). **Retail shops** are competitive for foods such as bread (73%), meat (46%) and non-foods such as clothing (58). **Local markets** remain the preferred place of purchase for fruit and vegetables (58% of preferences).

In the **first half of 2009** monthly expenditure was an average of €2,433 per household, a decrease of approximately €150 (-6%) compared to the figures for the whole of 2008. In view of the seasonal effect on the "consumption" phenomenon (e.g. the Christmas period), it would be more appropriate to compared the first half of 2008 with the first half of 2009; here the deviance is less marked and average expenditure drops to about €100 a month (-4%).

This contraction is due to the non-food sector; the food sector is more buoyant (up an average of €42 per month compared to the first six months of 2008; up €23 compared to the whole of 2008). Among non-foods, fuel and energy increase (+12%), whereas spending on "furniture, furnishings, household appliances" decreases (-25%) as do "other goods and services" (-11%). In spite of the crisis, spending on "recreation and entertainment" and leisure time is stable (+2%), while spending on holidays (travel, hotels) falls by about 20%.

The crisis highlights the difference in spending to the professional position and condition of members of a household. This is particularly evident for households headed by someone who is "not employed", a category that includes pensioners. If spending by this type of household in the first half of 2008 was 7 percentage points below the average for the sample, **in the first half of 2009 the gap widened (-17.2%)**. And as we have seen for the total of households interviewed, purchases of non-essential goods are the first to be sacrificed from the shopping baskets of pensioners or the "non-employed", together with spending on **leisure time** (-7% compared to +2.3% for the total sample).

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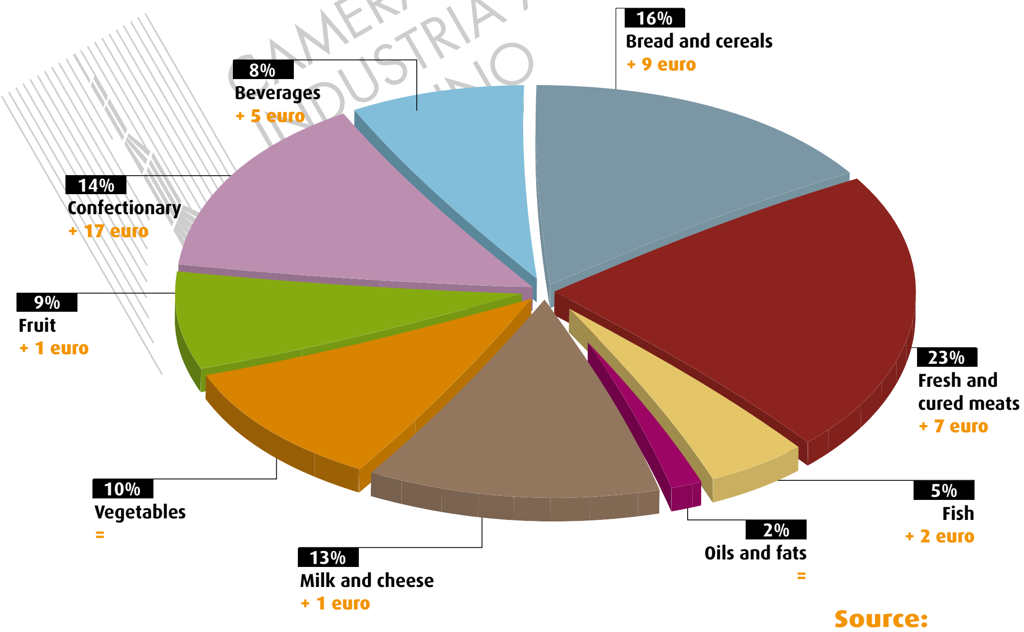
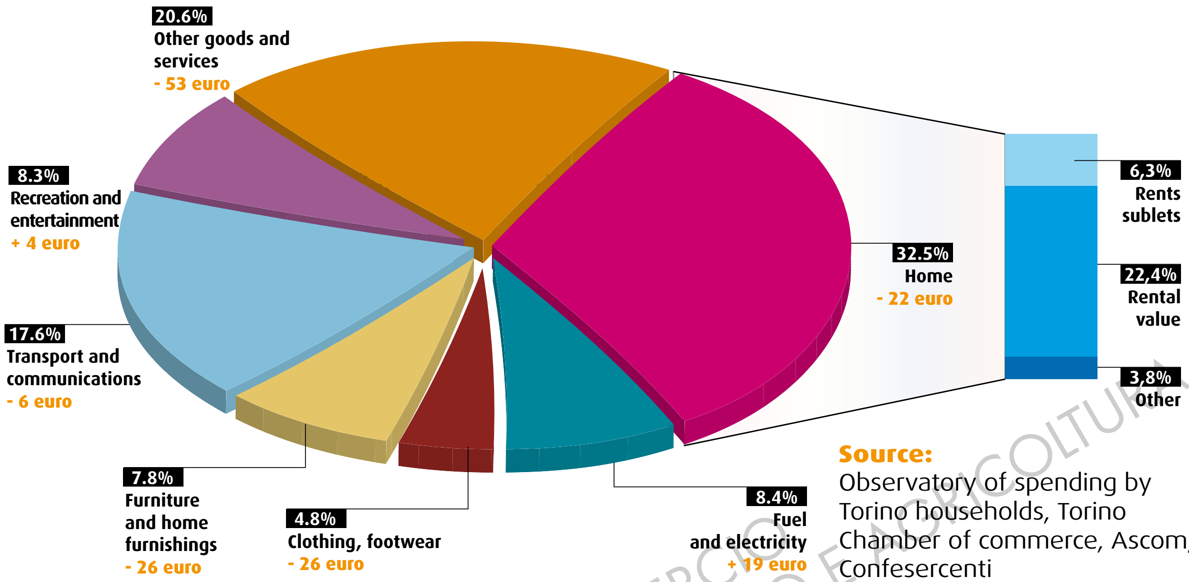
II
III
IV
V
VI
VII
VIII
IX

Chart 22 Food consumption in the first half of 2009
Change compared to the first half of 2008



Source:
Observatory of spending by Torino households, Torino Chamber of Commerce, Ascom, Confesercenti

Chart 23 Non-food consumption in the first half of 2009
Change compared to the first half of 2008



Source: Observatory of spending by Torino households, Torino Chamber of commerce, Ascom, Confesercenti

Certain changes can be noted where consumption habits are concerned: for example, in the past, "eating out" was at least a monthly habit (42% of households in 2006, 47% in 2007, 63% in 2008). In the first half of 2009 the percentage of households that eat at least one meal out falls to 53% (from 65% in the first half of 2008). If we analyse the under 15 days frequency bracket, this habit has been halved, from 36% in the first half of 2008 to 18% in the first half of 2009.

Chapter III

Foreign trade in the Province of Torino

In 2008, as the effects of the financial crisis spread, world trade began to slow down, and this trend continued in 2009: forecasts suggest that signs of a gradual improvement in international trade will only start to appear from 2010. This slowdown has affected countries exporting manufactured goods above all, particularly those in Western Europe, which is historically the home of manufacturing specialisation – first and foremost means of transport and intermediate and instrumental goods – which are now heavily penalised by the uncertainty, the consequent stagnation in the use of manufacturing capacity by companies, and restrictions on access to credit.

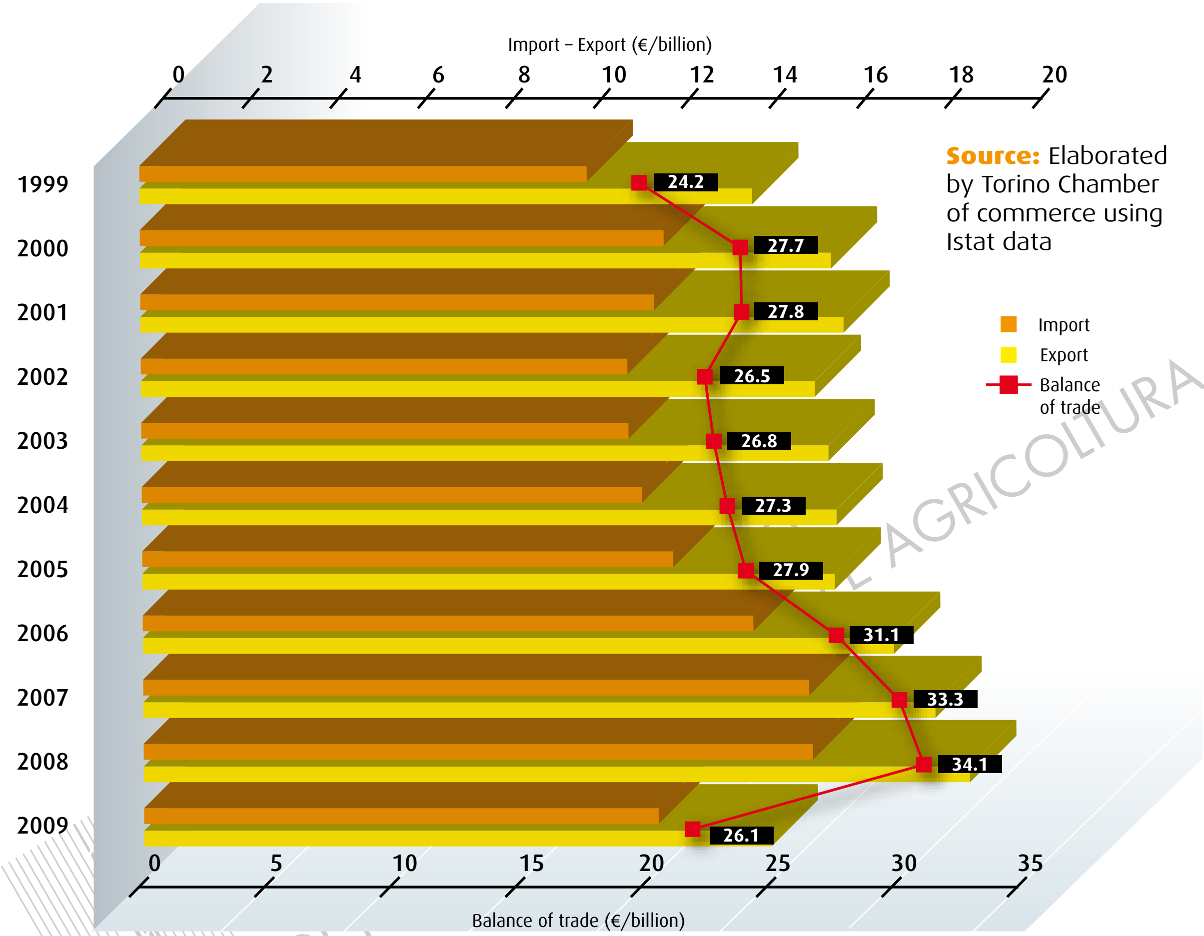
A strong fall in exports and imports was recorded for the whole country in 2009, but the data published by Istat for the first months of 2010 reveal weak signs of a recovery.

3.1 Projecting the province of Torino abroad: trade

Foreign trade by the province of Torino was on the downturn at the end of 2009. Exports were badly affected by the economic crisis: at €14.315 billion (provisional Istat data), they reveal a decrease of 24.5%, worse than that for Piemonte (-21.8%) or Italy as a whole (-21.4%). The massive reduction in domestic demand from foreign markets led to a decrease in imports (€11.743 billion, -24.3%): the balance of trade did however remain positive at €2.575 billion. If we analyse the quarterly trends (compared to the same period of 2008), the largest reductions (respectively –31.7% and –30.4%) were recorded in the first quarter of the year, during the most acute stage of the recession that has hit the real economy. With the first signs of an improvement in the economic situation, the stranglehold on international trade also weakened, and the negative trend was more limited in the fourth quarter of 2009 (-8.4%).

Overall trade by the province of Torino – the sum of imports and exports – totalled €26 billion, approximately €8 billion less than in 2008, and just 2 billion more than 10 years earlier (1999).

Chart 24 Foreign trade for the province of Torino. 1999 – 2009

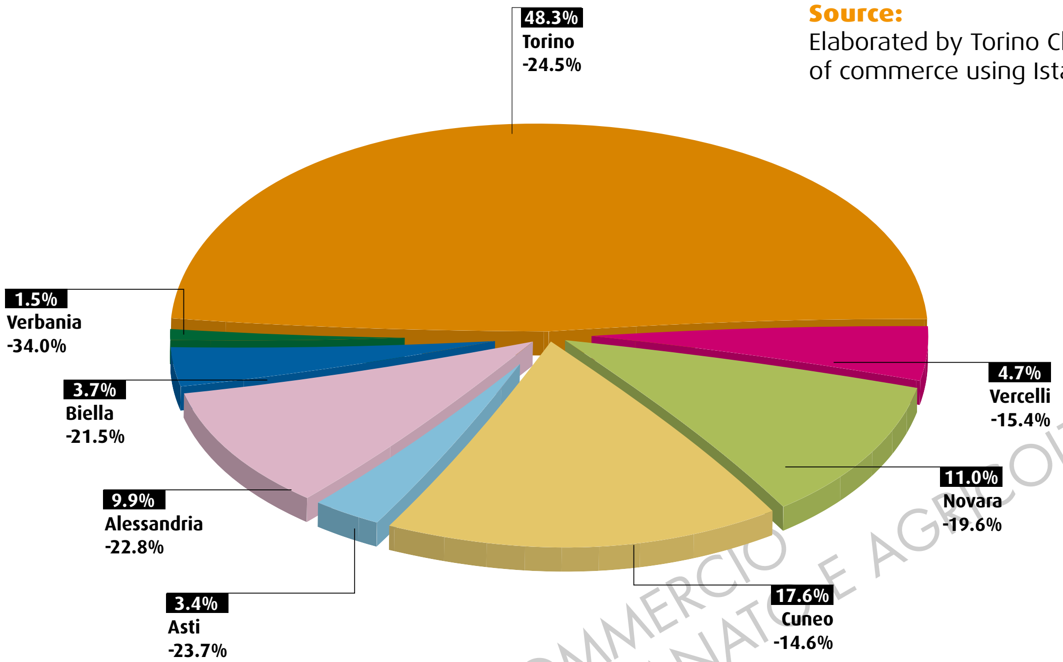


Source: Elaborated by Torino Chamber of commerce using Istat data

If we turn our attention to the situation in the region, we can see that exports from the provinces of Cuneo and Vercelli contracted less compared to 2008 (14.6% and 15.4% respectively), while the province of Verbania, which had contributed most significantly to the growth of Piedmontese exports in 2008 together with Asti and Torino, recorded the worst fall in sales in 2009, down 34% on the previous year.

The province of Torino is firmly is second place for the value of exports, behind Milan (€36.6 billion), and ahead of Vicenza (€10.9 billion). Where imports are concerned, demand from Torino puts it in third place, quite a distance behind the leader (Milan, with imports of €61.5 billion) and Rome, in second place with €19.9 billion.

Chart 25 Contribution by the province to Piedmontese exports and % change 2009/2008



Source:
Elaborated by Torino Chamber of commerce using Istat data

Table 16 The first ten Italian exporting provinces: position and % change of exports 2009/2008 (in €/thousand)

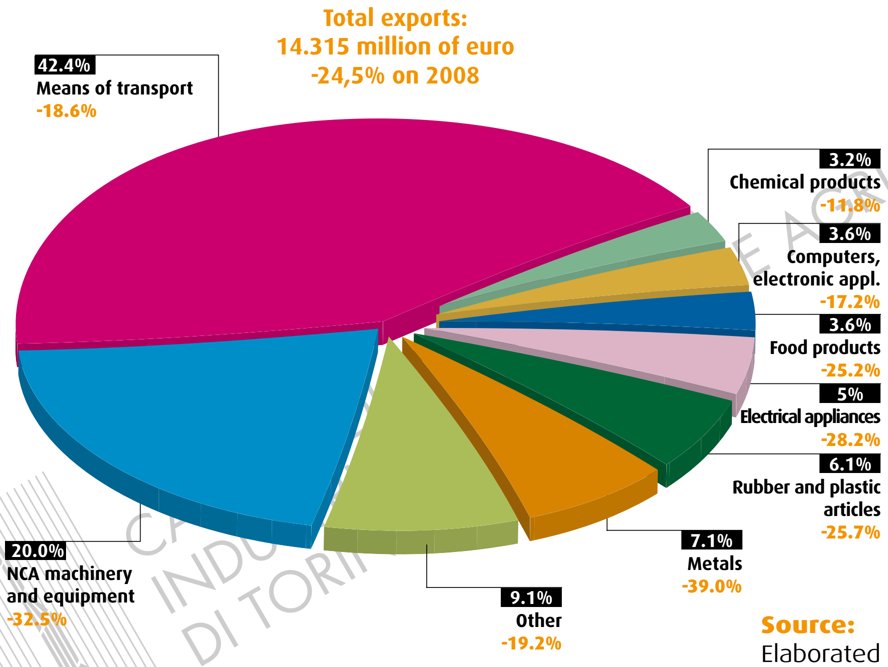
		2008		2009 PROVISIONAL		% CHANGE EXPORTS 2009/2008
POSITION	TERRITORY	IMPORT	EXPORT	IMPORT	EXPORT	
1	Milano	72,786.8	44,495.1	61,556.2	36,692.1	-17.5%
2	Torino	15,505.4	18,955.7	11,743.5	14,315.0	-24.5%
3	Vicenza	7,746.3	14,847.0	5,429.4	10,965.4	-26.1%
4	Bergamo	8,294.2	12,762.7	5,787.3	9,935.8	-22.1%
5	Brescia	9,007.9	14,101.9	5,273.4	9,716.8	-31.1%
6	Treviso	5,880.5	10,809.7	4,646.1	8,520.3	-21.2%
7	Bologna	6,443.5	11,138.9	4,980.7	8,253.7	-25.9%
8	Modena	4,642.3	10,899.0	3,577.0	8,151.7	-25.2%
9	Varese	5,809.9	9,316.9	4,686.0	7,722.7	-17.1%
10	Florence	4,764.5	7,814.3	4,003.6	6,890.5	-11.8%

Source: Elaborated by Torino Chamber of commerce using Istat data

3.2 Import-export by the province of Torino by product type

The overall decrease in exports by the province is confirmed in the negative trends in individual sectors: the sector hardest hit was the engineering industry (down 39% on 2008), followed by general machinery and equipment[20] (-32.5%).

Chart 26 Exports from the province of Torino by sector. % weight in 2009 and % change 2009/2008



Source: Elaborated by Torino Chamber of commerce using Istat data

After positive growth in 2008, means of transport, which are the most important sector for Torino's exports, closed 2009 with total exports of €6.1 billion, and an 18.6% decrease in sales on the previous year. Components, which account for over half of the sector, and sales of motor vehicles, both contracted on the previous year, respectively by 29.7% and 22%.

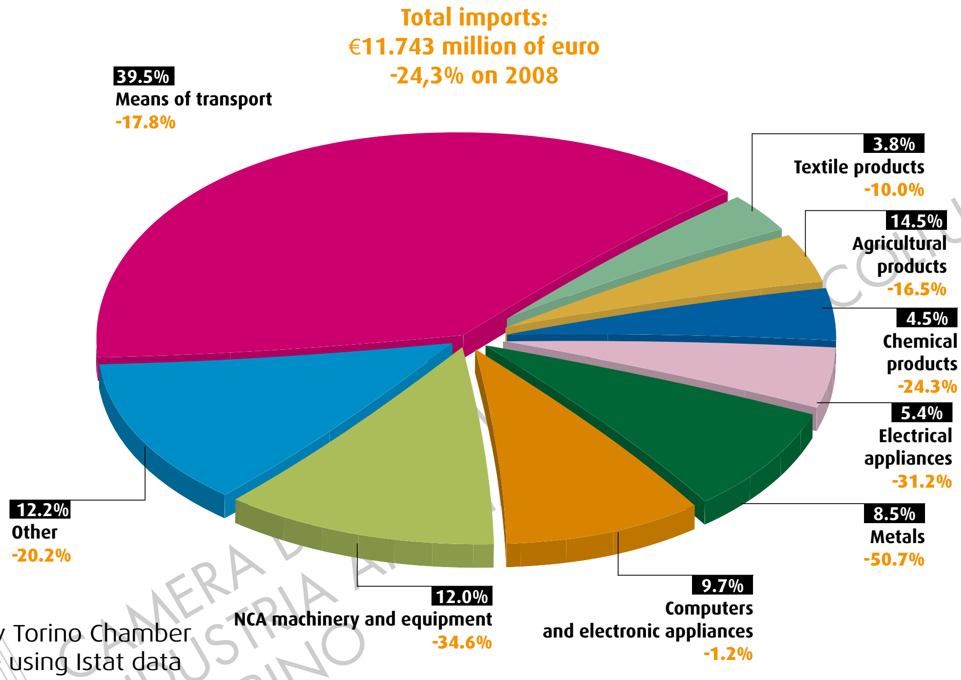
Rubber–plastics and food and beverages, the most vibrant sector in recent years, sustained by the strength of agriculture and food and wine production in the province, both collapsed; the former contracting by 25.7% and the latter by 25.2%.

After five years of growth, in 2009 foreign sales of metals and chemical products also contracted (respectively by 39% and 11.8%). For chemical products, all the main branches of activity contracted, accounting for 80% of the sector, from exports of cleaning products and perfumes (-10.4%; 47% of chemical products), to basic chemical products (-12.8%, 26.5%) and paint products (-18%, 5.9%).

[20] When the new ATECO2007 was introduced, it created the category of "NCA machinery and equipment" (for general and special uses and related mechanical parts), which corresponds to the engineering macrosector of the previous ATECO2002 classification.

Metallurgy exports, which had grown significantly since 2003, and were sustained last year by export sales of steel products, contracted by 13% in 2009; pipes and ducts, which account for over 14% of the sector, contracted by 34%.

Chart 27 Imports into the province of Torino in 2005 by sector.
% weight 2009, % change 2009/2008



Source:
Elaborated by Torino Chamber of commerce using Istat data

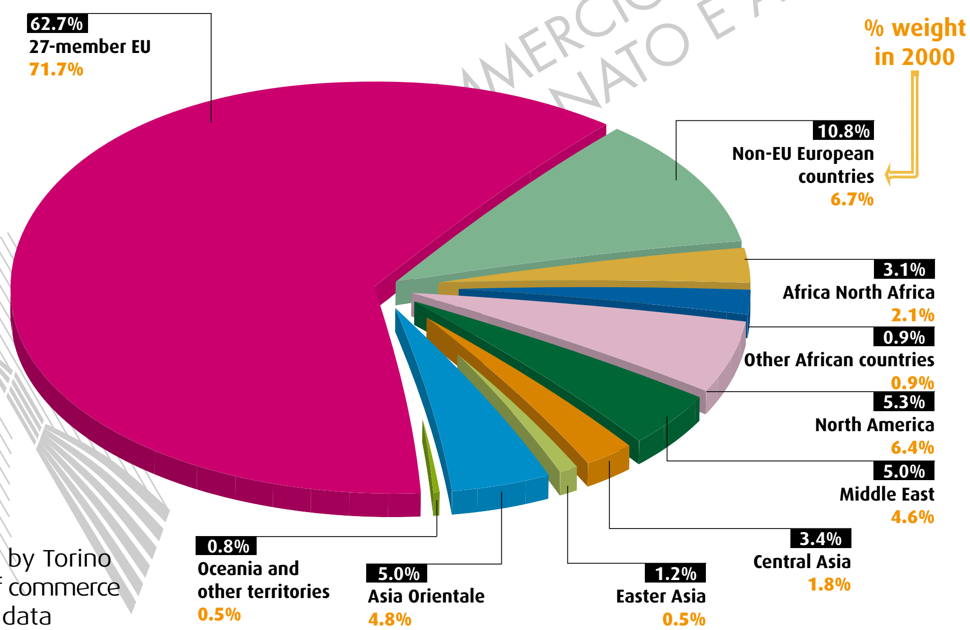
Imports pay the price of the consequences of a clear, generalised reduction in domestic demand, an evident effect of the recent economic crisis. All the main sectors of activity in the province of Torino have reduced their foreign sales. These include two of the most significant sectors in terms of percentage weight: means of transport (-17.8%, 39.5%) and general machinery and equipment (-34.6%, 12%), which record a marked decrease in total purchases. Metals, electrical appliances and chemical products also decreased significantly. The computers and electronic appliances sector resisted the collapse in demand and closed 2009 down just 1.2%.

3.3 The export markets for goods from Torino

The geography of exports from the province confirms a number of important characteristics of Torino's economic and manufacturing system.
The first, of a structural nature, considers the erosion of market share of traditional marketing partners in favour of new commercial outlets. The weight of the European Union of 27, which currently absorbs 62.7% of exports, decreased by 8 percentage points between 2000 and 2009. The redistribu-

tion of exports was oriented primarily towards non-EU European countries, such as Russia and Turkey, whose share has increased from 6.7% at the start of the millennium to 10.8% at the end of 2009, although, as we will show below, in the last year these two markets were severely penalised. On the other hand, trade relations between companies in Torino and the American market are still recovering from the contraction of 2001; North America in particular, which in the last nine years has lost almost one percentage point of exports from the province.
North Africa and the Middle East, which are strategically placed on the opposite shore of the Mediterranean, have gradually gained ground. Trade relations with the rest of the African continent and with Asia are less significant.

Chart 28 Exports by the province of Torino: outlet markets.
% weight in 2009 and comparison with 2000



Source: elaborated by Torino Chamber of commerce using Istat data

In the medium term, relations between the province and the main destinations for Torino goods have varied: on one hand exports to North America and Africa were difficult, while on the other relations with Central and South America recovered and new commercial opportunities emerged with Eastern Europe and Asia. At the centre, the 27-member European Union, to which export flows have stabilised, varying by negligible amounts from year to year. While 2008 and 2007 were two years of stable trade relations between the province of Torino and the rest of the world, the contraction in 2009 was widespread, under the effects of the recent crisis, causing a new slowdown in all commercial transactions, towards both traditional partners and "emerging" economies.

I II III IV V VI VII VIII IX

Table 17 Export trends for the province of Torino, by major geographical destinations. Changes in stock 2005 – 2009*

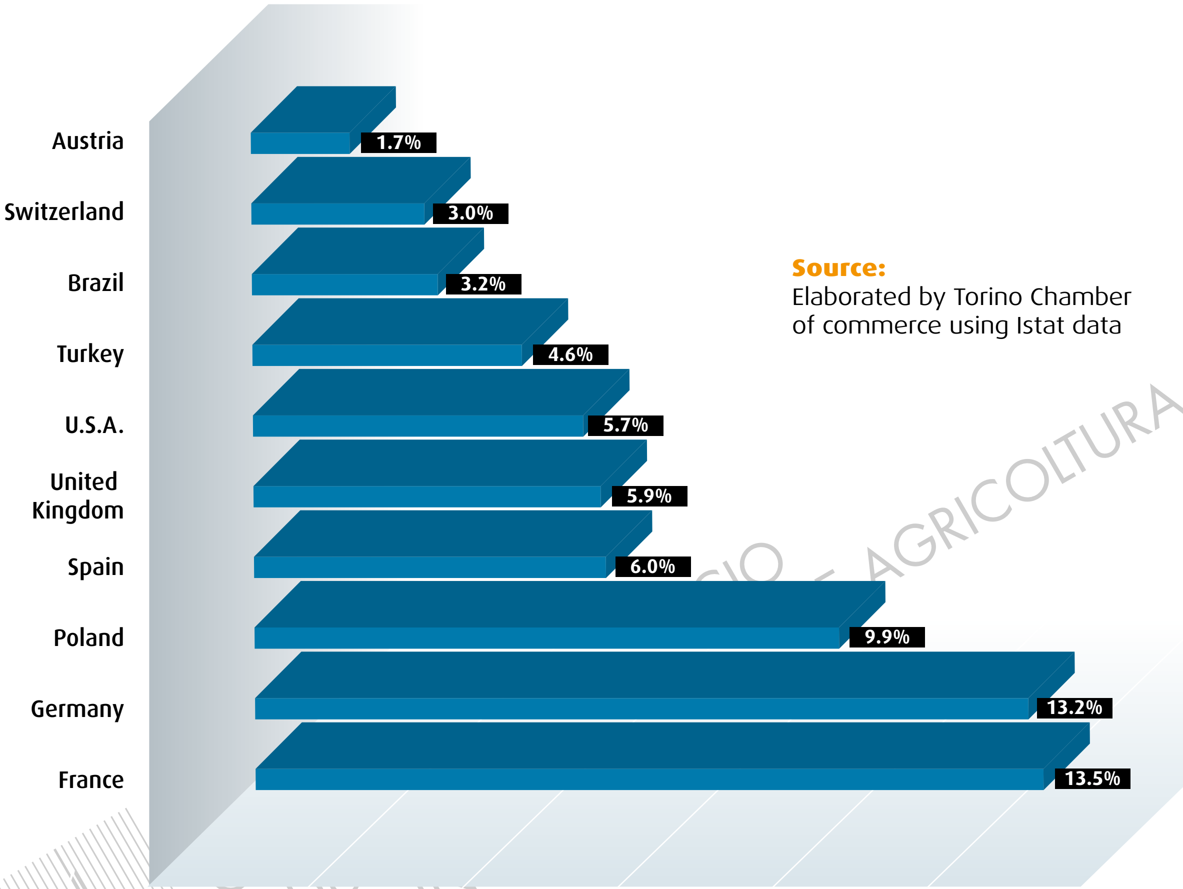
EXPORT	2005/2004	2006/2005	2007/2006	2009/2008	EXPORT
EU 27	0.4%	8.0%	2.4%	0.4%	-27.0%
Non-EU European countries	-7.5%	14.3%	16.6%	4.8%	-26.5%
North Africa	1.0%	18.9%	28.2%	20.0%	-17.5%
Other African countries	30.5%	21.0%	-9.4%	-1.9%	103.1%
North America	6.8%	11.0%	1.2%	6.1%	-10.9%
Central-South America	-2.1%	11.5%	23.1%	20.9%	-30.6%
Middle East	-8.2%	-17.2%	27.8%	58.3%	-33.2%
Central Asia	12.0%	16.1%	60.9%	38.5%	-23.5%
Eastern Asia	-2.1%	5.5%	-4.2%	3.6%	-14.4%
Oceania and other territories	-6.7%	3.7%	0.6%	-3.4%	-32.3%

Source: elaborated by Torino Chamber of commerce using Istat data

* provisional 2009 data

Overall, direct exports to the European Union of 27 collapsed in 2009 (-27%); this can be attributed to the divergent trend of flows of goods to the main foreign markets: on one hand France (-29%, 13.5% of the total), Germany (-27.4%, 13.2%) and Spain (-39.3%, 6.0%) continue to lose weight against the total; on the other Poland continues to increase its share, and sales to this country were practically stable in 2009 (-1%, 9.9%). In 2009, for the second year running, Poland was in third place among the main outlet markets for goods from Torino, with exports amounting to €1.4 billion. Among non-EU European countries, there was a strong fall in exports to Russia in 2009 which contracted by 66%) after growing strongly in 2008 (+57.8% on 2007), and slipped out of the top ten destination markets for Torino goods. Sales to the Turkish market also contracted (-10.2%), continuing the trend begun in 2008, when exports from Torino decreased by 10.5%.

Chart 29 The first ten export markets for goods from Torino. 2009

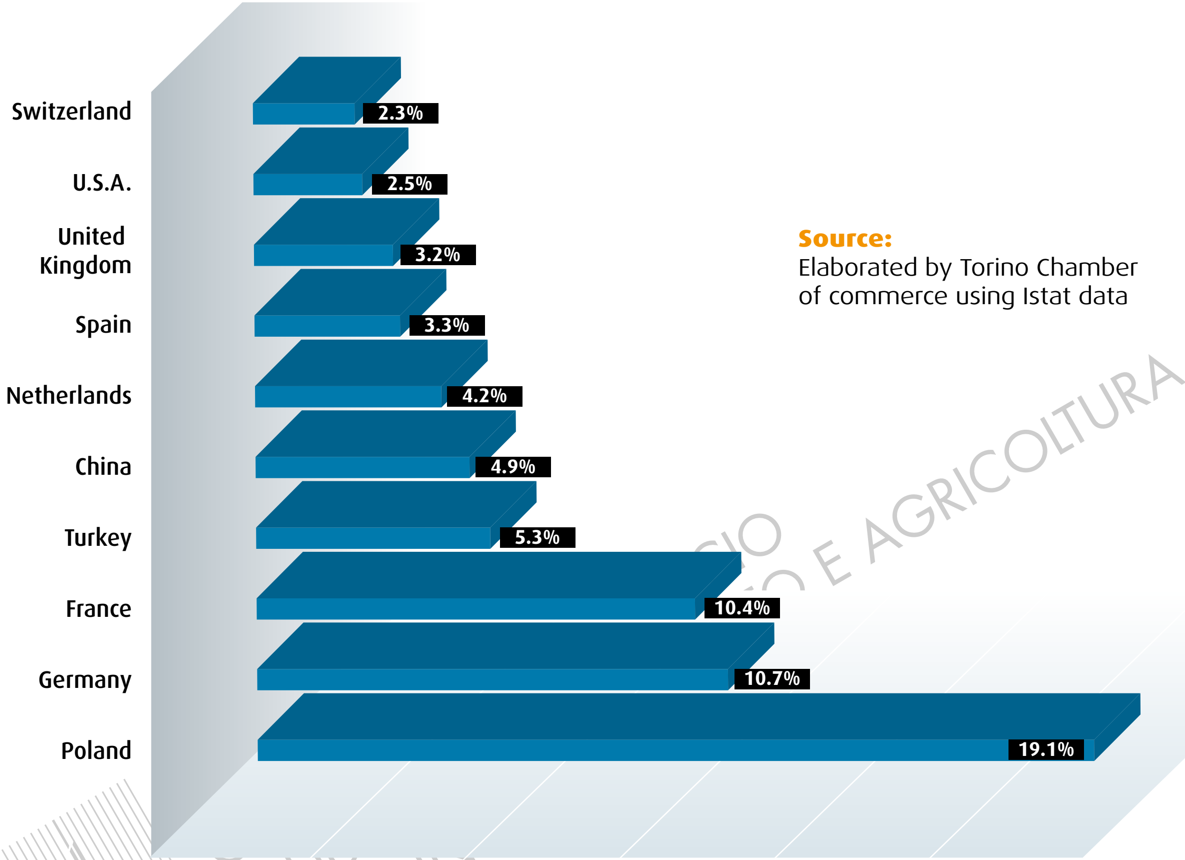


Source:
Elaborated by Torino Chamber of commerce using Istat data

The United States confirmed its position as the province's leading non-European partner, increasing its 2008 share by one percentage point; Brazil was in eighth place among Torino's trading partners for the second consecutive year.

There were very different trends among the major Asian markets in 2009; while purchases of goods from Torino by Japan and India decreased by 21% and 16% respectively compared to 2008, China alone bucked the trend, recording a 3.8% increase in imports from Torino. Nearly half of exports to China regarded machinery for general use, which increased by 8.2% compared to 2008, but the good showing of exports to this country was determined primarily by rubber products, which increased by 176%, accounting for 9% of all sales to China by the province.

Chart 30 The first ten countries of origin of imports into the province of Torino. 2009



Source:
Elaborated by Torino Chamber of commerce using Istat data

Imports into the province of Torino also decreased. The most consistent decreases in imports regarded goods from North America (-30.6%), East Asia (-29.9%), the Middle East (-27.1%) and the European Union of 27 (-25.3%). On the other hand, purchases of goods from central Asia increased by 20.2% on 2008.

The leading countries of origin of imports to Torino changed significantly: although Poland is in first place for the third consecutive year, selling goods worth €2,547 million to the province (19.1% of the total), Germany (10.7% of exports, worth €1,433 million) took second place from France (10.4%, worth €1,391).

3.4 Trade in services[21]

In 2008 (the last available data), world exports of commercial services grew by 11.3% on the previous year, to an overall total of $3,700 billion, which represents 18.8% of total world trade. Unlike 2007, trade in commercial services grew more slowly that trading in goods. However, during the year, and in particular from September 2008, like trading in goods, trade in services was also affected by the worsening crisis in advanced countries above all. In North America, it fell from growth of 13% in the first 9 months of the year to a contraction of 2% in the last quarter of 2008. The impact of the crisis was also evident in Europe, where growth of 13% in the first 9 months of 2008 was transformed into a contraction of 2% in the final quarter of the year.

If we draw up a list of the leading service exporting countries, the first ten places are generally stable, except for France, which took 4th place from Japan, and India, which has joined the top ten exporters, increasing in value (+15.4%) and share (2.8%). The United States remain the leading exporter (14% of global exports of services), followed by the United Kingdom (7.6%) and Germany (6.3%). Taken as a whole, the European Union is the world's largest supplier of services and it includes eleven of the world's top twenty exporting countries.

With credits of $123 billion, Italy remains in eighth place among the leading service exporting countries, with a 3.3% share (and seventh place among the importing countries, at $132 billion). There is a strong presence of advanced service companies in the North of the country: from marketing services to corporate consultancy and management, applied research and biotechnologies, IT and data processing centres. Piemonte is in fifth place among the Italian regions for exports of commercial services, behind Lombardy, Lazio, Veneto and Tuscany; it is in fourth place, behind Lombardy, Lazio and Emilia Romagna, in terms of imports. The gap between exports (€3,093 million) and imports (€4,907 million) widened in 2008, although not to the extent of the previous year: the deficit between sales and purchases grew to €-1,814 million in 2008, after growing by 52.6% in 2007.

The trend for the province of Torino was very similar. In 2008, exports amounted to € 2,036 and imports to €3,290 million; the balance is still very negative (-€1,253 million), in spite of a decrease which regarded both receivables (-4% compared to 2007) and payables (-3%). Among the items making up provincial trading in services[22], only financial services (up €93.6 million), royalties (up € 815 thousand) and construction (up € 671 thousand) showed a surplus at year-end; on the other hand, the deficit for communications (€-507.8 million), personal services (€-307.3 million), insurance (€-248.5 million) and travel abroad (€-199.2 million), remained high. Services to business and foreign travel remain priority items, accounting for almost 80% of overall exports of services, followed at some distance by financial services (7.7%); no other item exceeds 5% of the total.

[21] Exports of services include services by units both resident in Italy and not resident, that generate accounts receivable from abroad, while imports include services originating from units both resident and Italy and not resident, that generate accounts payable abroad.
[22] Information for "transport" is not available at a regional and provincial level.

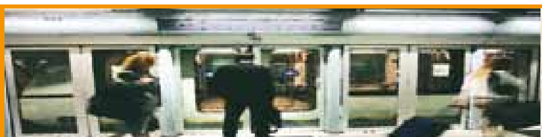


Table 18 Trading in services in the province of Torino (absolute values in Euro and percentages)

	ANNO 2008 (€/THOUSAND)			ANNO 2007 (€/THOUSAND)			COMPOSITION % 2008		CHANGE % 2008/2007	
EXPORT	EXPORT	IMPORT	BALANCE	EXPORT	IMPORT	BALANCE	EXPORT	IMPORT	EXPORT	IMPORT
Travel abroad	660,481	859,680	-199,199	603,885	894,164	-290,279	32.4%	26.1%	9.4%	-4%
Construction	18,466	17,795	671	25,016	40,463	-15,447	0.9%	0.5%	-26.2%	-56%
Communications	23,226	530,980	-507,754	198,858	677,567	-478,709	1.1%	16.1%	-88.3%	-22%
Insurance	35,066	283,566	-248,500	27,399	286,911	-259,512	1.7%	8.6%	28.0%	-1%
Financial services	156,023	62,462	93,561	207,649	74,812	132,837	7.7%	1.9%	-24.9%	-17%
IT services	46,704	96,064	-49,360	43,272	53,010	-9,738	2.3%	2.9%	7.9%	81%
Royalties and licences	81,314	80,499	815	114,807	76,815	37,992	4.0%	2.4%	-29.2%	5%
Other business services	977,406	1,011,840	-34,434	863,995	934,930	-70,935	48.0%	30.8%	13.1%	8%
Personal services	37,906	345,179	-307,273	35,914	354,962	-319,048	1.9%	10.5%	5.5%	-3%
Services for government	15	2,404	-2,389	268	1,185	-917	0.0%	0.1%	-94.4%	103%
TOTAL	2,036,607	3,290,469	-1,253,862	2,121,063	3,394,819	-1,273,756	100.0%	100.0%	-4.0%	-3%

Source: Elaborated by Torino Chamber of commerce using Banca d'Italia data

Imports also concentrated on services to business (30.8%) and tourism (26.1%), and the weight of communications (16.1%) and personal services (10.5%) were also significant.

In the first eleven months of 2009, the province of Torino exported services for €1,582 million and imported services for €2,328 million; this generated a deficit of €746.6 million. The balance of trade for financial services remains positive (€25.7 million), as do IT services (€16.3 million) and royalties (€15.9 million). The priority items remain services to business (45% of total service exports and 31.3% of total imports) and foreign travel (28.9% of exports and 29.7% of import).

Table 19 Trading in services in the province of Torino (absolute values in Euro and percentages)

	JANUARY-NOVEMBER 2009 (€/THOUSAND)			% COMPOSITION 2008	
SERVICES	EXPORT	IMPORT	BALANCE	EXPORT	IMPORT
Travel abroad	457,022	691,570	-234,548	28.9%	29.7%
Construction	14,201	23,925	-9,724	0.9%	1.0%
Communications	30,907	210,162	-179,255	2.0%	9.0%
Insurance	30,458	203,434	-172,976	1.9%	8.7%
Financial services	171,995	146,276	25,719	10.9%	6.3%
IT services	42,031	25,697	16,334	2.7%	1.1%
Royalties and licences	102,085	86,091	15,994	6.5%	3.7%
Other business services	713,294	729,568	-16,274	45.1%	31.3%
Personal services	20,039	208,946	-188,907	1.3%	9.0%
Services for government	133	3,168	-3,035	0.0%	0.1%
TOTAL	1,582,165	2,328,837	-746,672	100.0%	100.0%

Source: Elaborated by Torino Chamber of commerce using Banca d'Italia data

3.5 Foreign direct investment

Like all other economic activities, global flows of foreign direct investments suffered a significant slowdown in 2008 (the last available data). This contraction was aggravated on one hand by the difficulties faced by businesses to access credit linked to the collapse of profits, but also and above all to the squeeze by financial institutes; on the other hand, the climate of uncertainty has produced widespread prudence in the choice of investments by economic entities.

In 2008, after the peak of $1,979 billion reached in 2007, FDI flows fell to $1,697, (down 14%). The latest UNCTAD forecast indicates that, after 2009 in which the collapse of 2008 will continue, there will be a recovery, albeit slow, in 2010, which will pick up speed in 2011. This general picture is accompanied by a change in the dynamics of global foreign investments: in fact, investment from developing countries and transition economies increased to 43% of the total, while flows from developed countries contracted by 29%.

Italy's involvement in global investment flows is still marginal: in 2008, only 3.5% of worldwide FDI regarded Italy. In the country, there are still strong territorial deficiencies in the capacity to attract foreign investment. In 2008, 58% of FDI entering Italy (net of divestments) targeted just 4 regions: Lombardy (€6.3 billion), Piemonte (€1.9 billion), Lazio and Veneto (both €1.8 billion).

In the last three years, in spite of the fact that in 2007 there was a prevalence of divestments of incoming FDI, net foreign investment in Piemonte remained positive, reaching €2.2 billion, 9.5% of the national total. Of this, 84% originated from the European Union of 27, and almost 98% focused on the province of Torino.

Table 20 Net incoming Foreign direct investment (in €/thousand)

	PROVINCE OF TORINO NET FOREIGN	PIEMONTE NET FOREIGN	ITALY NET FOREIGN
AVERAGE 2006-2008	2,178,261	2,223,122	23,296,814
2008	1,999,649	1,949,780	20,676,160
2007	-399,164	-107,398	24,615,602
2006	4,934,298	4,826,983	24,598,680

Source: Banca d'Italia

Where outgoing foreign direct investment is concerned, Italy, which was in 14th place in 2008 in terms of investment flows, total outgoing national FDI only accounted for 2.3% of global outgoing FDI, amounting to $1,857 billion. Piemonte and the province of Torino also seem to have adopted this more cautious approach: averages for the last three years show that businesses in Piemonte and in Torino have reduced their recourse to this tool of internationalisation, which resulted in a clear prevalence of divestments.

Table 21 Net outgoing Foreign direct investment (in €/thousand)

	PROVINCE OF TORINO NET FOREIGN	PIEMONTE NET FOREIGN	ITALY NET FOREIGN
AVERAGE 2006-2008	-1,038,871	-491,318	33,303,336
2008	-2,760,040	-2,402,559	24,524,469
2007	-814,224	-289,076	47,357,503
2006	457,651	1,217,680	28,028,035

Source: Banca d'Italia

Interview

Ms Giorgia Elena Carati

Morocco Foreign Desk
at the Torino Chamber of Commerce

The Morocco desk, which was one of the first to be created, now has five years of activity behind it: what needs has it met since it was opened? What are the results of your activities to support the internationalisation of Piedmontese companies?

The opening of the Morocco Desk made it possible to approach a market that was not sufficiently assessed and exploited by Italian businesses because of poor knowledge of the country, often the result of prejudice and misconceptions linked to the first generation of Moroccan immigrants in Italy. In five years, the Desk has served over 650 Italian companies and about 100 Moroccan firms, and it has worked with about 150 companies from Piemonte. In 2009, we answered 45 requests for information and supported 19 Piedmontese firms.
Generally speaking, the companies that ask for the Desk's assistance are making their first approach to the Moroccan market, and want some answers before actually entering the local market.

The desk provides assistance both for commercial activities, and for investment programmes: what would you tackle a "typical" contact?

The most typical activity is the search for a partner, in other words the identification of local partners who are interested in importing/distributing a product on the Moroccan market.
When the Desk receives the company profile of a Piedmontese business, it consults the database at its disposal to identify a list of local operators that meet the required profile; they are then contacted directly to check whether they are interested in the product proposed by the Piedmontese company. At the end of this process, the desk submits the names of any operators who are interested in marketing, importing or distributing that product. Lists of the Moroccan operators are drawn up after contact is made with the directors or marketing managers of the Moroccan companies to check that their profiles correspond with the request, and that they are interested in learning more about the product.

What are the main difficulties and advantages, for the Piedmontese companies, linked to the decision to undertake commercial operations and investments in Morocco?

Establishing contacts with economic operators in Morocco certainly requires a greater effort in the process to follow up the various offers than would be the case in Italy.

In recent years, Morocco has enjoyed stable economic growth, undertaking important investment to improve infrastructure, in particular in the field of transport and logistics. What is more, obtaining the statute put forward advanced by the EU has enabled the Government to implement important privatisation policies, as well as to gradually eliminate customs dues in preparation for the introduction of the free trade area with the EU in 2012, already anticipated with Tunisia, Jordan, Egypt (through the Agadir Agreement) and the implementation of a specific agreement with Turkey.

Do you also assist Moroccan businessmen who live in Torino and wish to return to Morocco?

With the Torino Chamber of Commerce and Confartigianato, we have helped a few potential Moroccan businessmen living in Torino and the surrounding province, to identify the cost of local manufacturing factors in order to prepare business plans, particularly in the tourist sector. However, we have no information about the actual realisation of these projects.

Chapter IV

Research and technological innovation

Investments in the field of research and innovation are essential cornerstones of any area's development. The purpose of this chapter is to analyse how Piemonte and the province of Torino position themselves in the national and international context of scientific-technological research, in both the public and the private sphere. It also aims to provide an overview of what has become an increasingly important opportunity for our entrepreneurial fabric, because it can boost and improve not only the productivity of the province but also the well-being of the population.

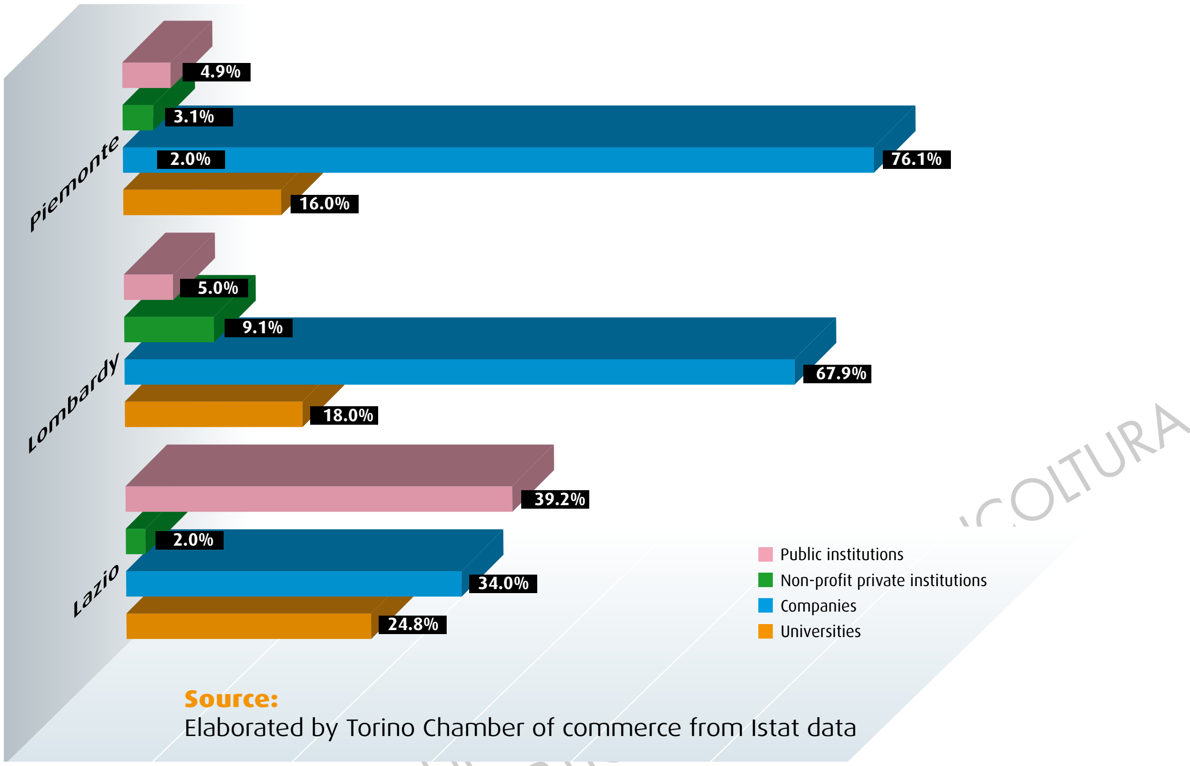
4.1 Research and development in Piemonte

Piemonte is the third Italian Region in terms of total spending on R&D (behind Lombardy and Lazio), and the fourth for the number of people employed in this sector; this emerges from the last data published by Istat in its annual survey of "Research and Development" in 2007.

Regional **in-house spending** of €2,282 million, i.e. that within institutions with their own staff and equipment, accounts for 1.8% of Piedmontese GDP, and 12.5% of the national total. More than 21,300 people are employed on R&D activities (units expressed in full-time equivalent employment), or 10.3% of the national total.

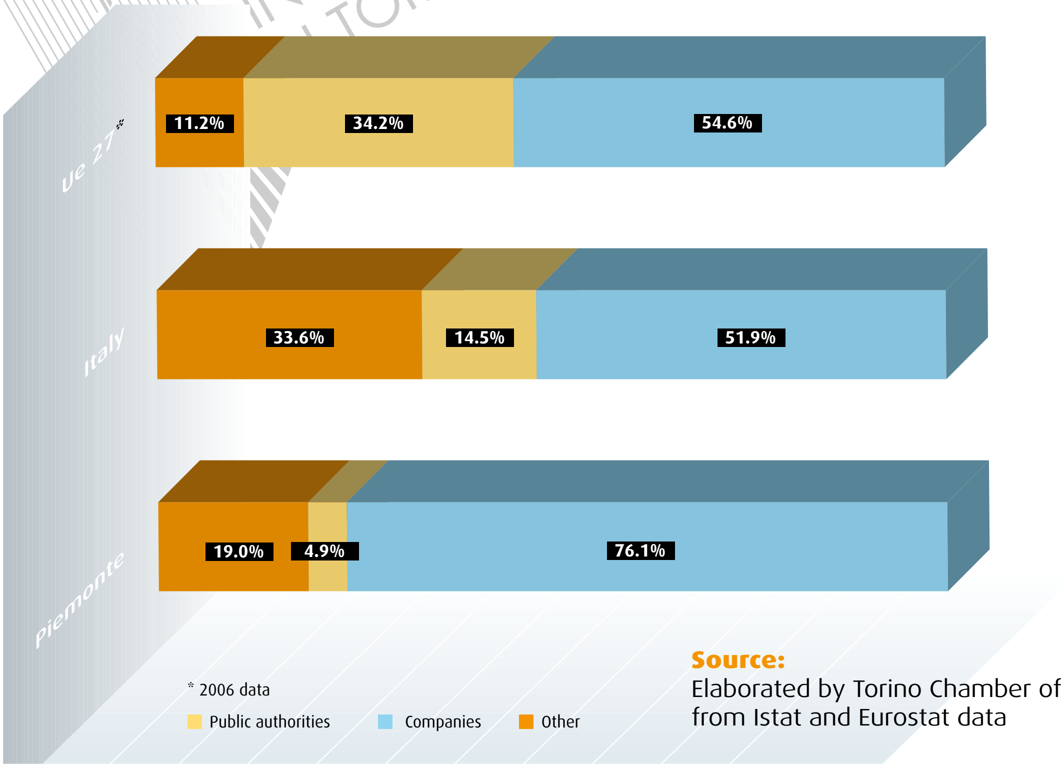
In Piemonte, investment in innovation tends to relate to manufacturing: 76% of regional expenditure on research is sustained by companies. In Lombardy this percentage is 68%, whereas in Lazio it is the public institutions that absorb almost 40% of total spending in the region.

Chart 31 Breakdown of in-house spending in R&D by institutional sector
% values out of regional total – 2007



Source:
Elaborated by Torino Chamber of commerce from Istat data

Chart 32 R&D by institutional sector – Comparison between EU27, Italy and Piemonte 2007

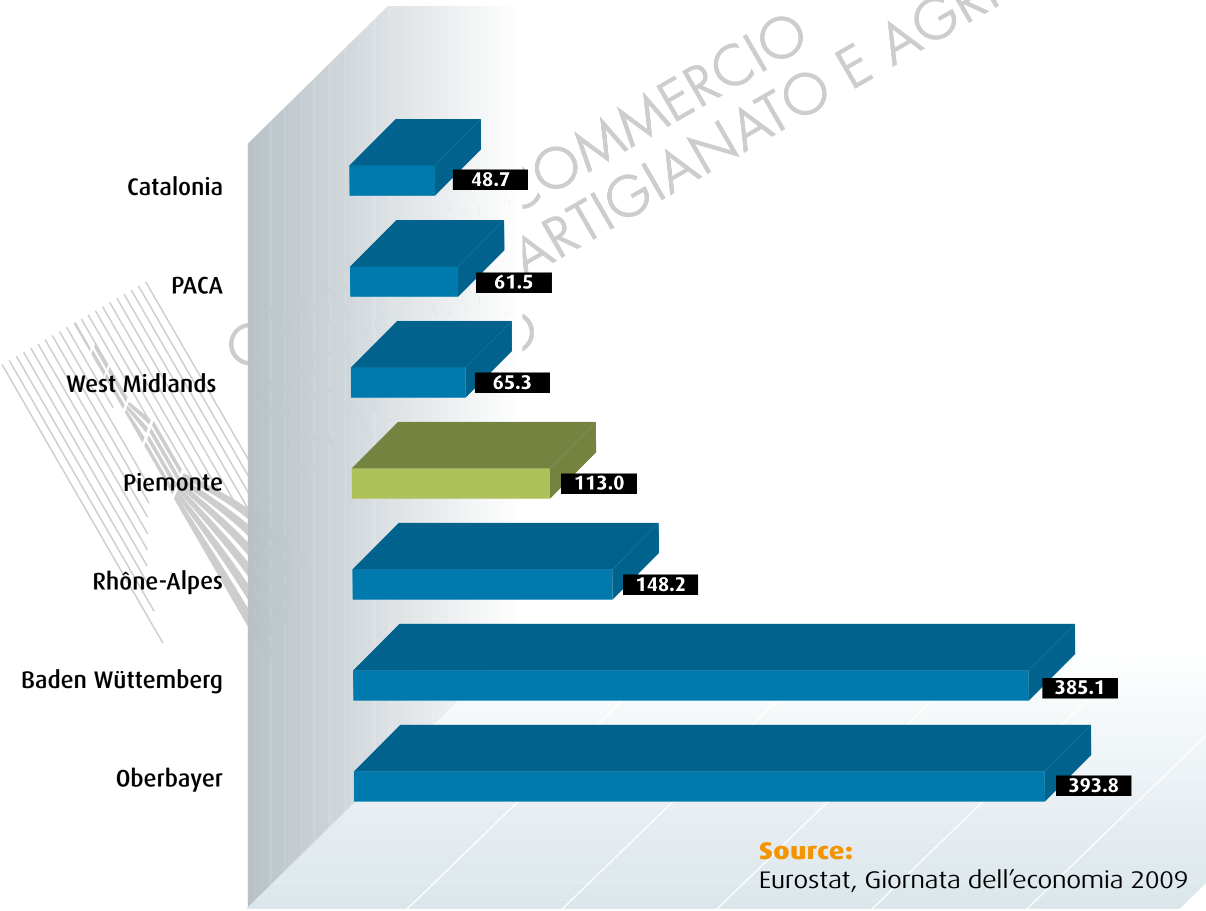


Source:
Elaborated by Torino Chamber of commerce from Istat and Eurostat data

This breakdown of spending on innovation into the various sectors puts Piemonte in first place among the Italian regions for capital expenditure for manufacturing purposes, and makes the region competitive internationally; 21.5% more is invested in R&D in the region than the average for the European Union of 27.

Another excellent indication of a region's level of innovation is the number of European patents filed (EPO) per million inhabitants. In 2007, 113 **European patents** were applied for per million inhabitants. Compared to major European manufacturing areas with a similar economic fabric, Piemonte is more "innovative" than Catalonia (48.7), PACA (61.5) and West Midlands (65.3), but less than Rhône-Alpes (148), Baden Würtemberg (385) and Oberbayern (394) which filed a larger number of patents.

Chart 33 Applications for EPO patents (per million inhabitants)
Comparison between European regions – 2007



Source:
Eurostat, Giornata dell'economia 2009

The same indicator for the province of Torino records 142.6 EPO patents per million inhabitants, above both the regional value and the figure for the country as a whole (71.2).

4.2 Manufacturing import-export by technological product content

Analysis of manufacturing import-export by the province of Torino by technological content, on the basis of the Eurostat classification of economic activities[23], makes it possible to classify products as products with a high, medium-high, medium-low or low technology content.

Table 22 Import-export by the manufacturing industry in the province of Torino by the technological content of the products. 2009 (in Euros)

	IMPORT	EXPORT	BALANCE
High Technology	1,490,276,749	1,576,310,960	86,034,211
Medium-High Technology	7,079,366,483	8,971,510,896	1,892,144,413
Medium-Low Technology	1,439,349,922	2,236,615,696	797,265,774
Low Technology	1,099,975,101	1,334,447,382	234,472,281
TOTAL	11,108,968,255	14,118,884,934	3,009,916,679

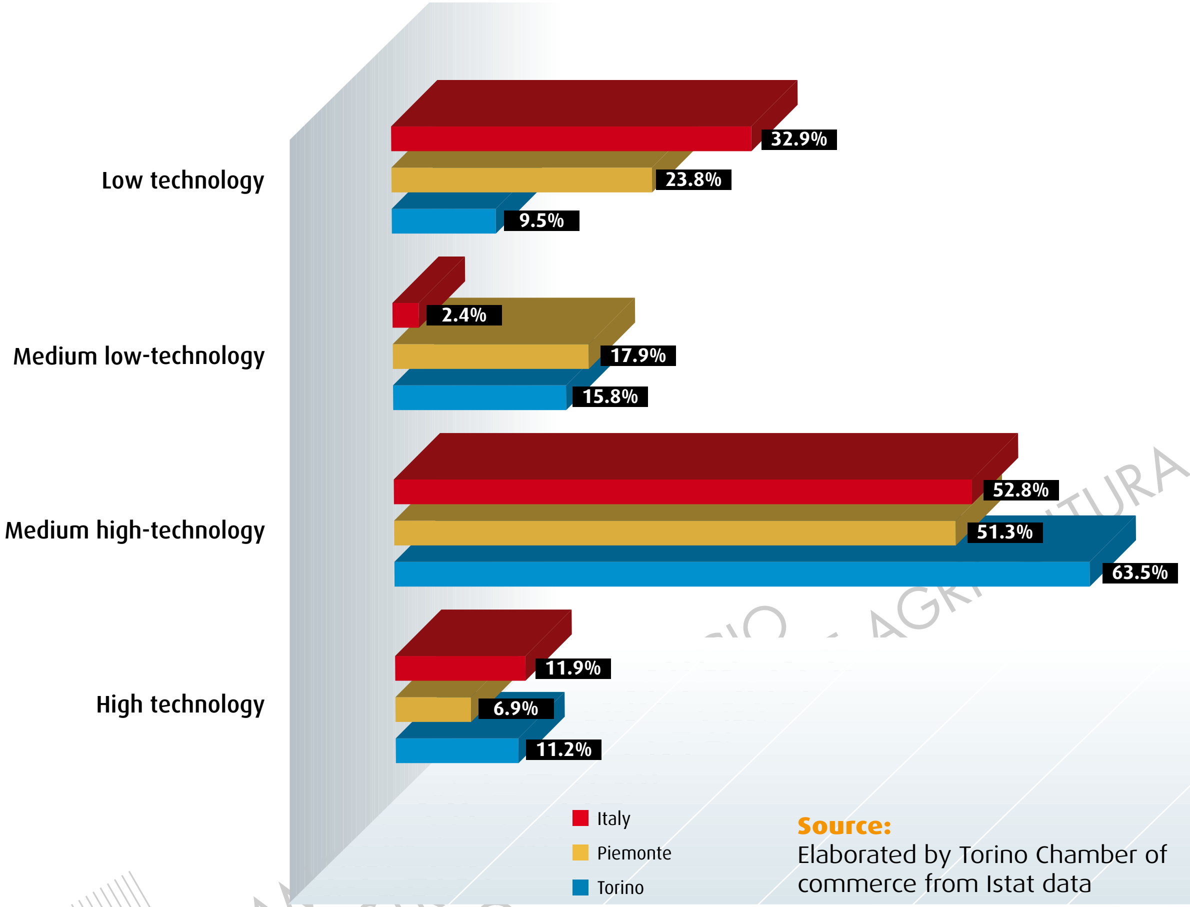
Source: elaborated by Torino Chamber of commerce

On the basis of this classification, foreign trade by the province of Torino mainly comprise "medium-high technology" products, due to the weight of means of transport and engineering products that account for 54% and 32% of the category respectively. Import-export of "low technology" products on the other hand, is very weak.

If we compare exports of the same categories at a regional and national level, the province of Torino excels for sales of "medium-high technology" products (63.5% of exports), which are well above the levels for Piemonte and Italy (51% and 53%).

[23] The Eurostat classification (in line with the indications of the OECD) breaks the manufacturing industry down into the following categories, based on NACE Rev. 2 classification of economic activities:
- High technology: aerospace industry (NACE 30.3); pharmaceutical industry (NACE 21); manufacture of office machines, computers and IT systems (NACE 26);
- Medium-high technology: manufacture of chemical products (NACE 20); manufacture of weapons and ammunition (NACE 25.4); manufacture of electrical machinery and equipment (NACE 27); manufacture of machinery and equipment for general uses (NACE 28); manufacture of motor vehicles, trailers and semitrailers (NACE 29); other vehicles and transport equipment (NACE excluding 30.3); manufacture of medical and dental instruments and supplies (NACE 32.5);
- Medium-low technology: manufacture of coke, refined petroleum products, processing of nuclear fuels (NACE 19); manufacture of rubber and plastic products (NACE 22); manufacture of other non-metal mineral products (NACE 23); basic metals (NACE 24); manufacture of fabricated metal products (NACE 25); building of boats and ships (NACE 30.1);
- Low technology: food industry (NACE 10); beverage industry (NACE 11); tobacco industry (NACE 12); textile, clothing and leather industries (NACE 13, 14, 15); wood, paper and publishing industry (NACE 16, 17); printing and reproduction of recorded media (NACE 18 excluding 18.2); manufacture of furniture (NACE 31); other manufacturing industries (NACE 32 excluding 32.5).

Chart 34 Breakdown of manufacturing exports by technological content, 2009



On the other hand, "low technology" products only account for 9.5% of foreign trading by technological content by the province; for Piemonte this value is 24%, and 33% for Italy as a whole.
One important element regards the incidence of "high technology" goods on total exports; at 11.2%, this is well above the corresponding value for Piemonte and almost equal to the national value.

4.3 The Observatory of innovative companies in the province of Torino

For several years, the Torino Chamber of Commerce has been involved in activities designed on one hand to increase knowledge of "innovation" in the region and, on the other, to encourage companies to innovate by information programmes, and to create opportunities for partnership with entities demanding or producing technological innovation.
One outcome of this activity has been a completely revised version of the traditional Catalogue of innovative companies, prepared by the Chamber of Commerce since the 1990s, and a survey of the territory, both of which were published with the collaboration of the Rosselli Foundation.
The Observatory is built around the attempt to overcome the tradition interpretation of the process of innovation, which is often excessively polarised in favour of product, manufacturing and in-house

innovation, identifying new observation and analysis metrics that take the real complexity of the phenomenon into consideration. The proposed model of analysis tries to account for the complexity of the innovation process, structuring it in different dimensions (sources, resources, strategies, means of appropriation of value) and extending the analysis to entities outside the company, with which it interacts to pursue its own innovation goals.

After initial mapping of all the local businesses with a high capacity for innovation, a **sample of about 1,500 businesses** was created, which declared their willingness to take part in the Observatory's survey. About 29% of these (428 businesses) also completed the related questionnaire.

4.3.1 Analysis of innovative companies

Most of the **428 companies** that replied, little more than one third of which were micro-enterprises, with a further 38% of small enterprises, operate in high-tech manufacturing sectors (48%), or in different areas of the ICT sector (approximately 21%). On the other hand, the weight of the "traditional" sectors of services and commerce is quite low (approximately 3%).

Of these, only 12% are businesses less than 5 years old: the photograph of the sample is therefore that of small enterprises that have nonetheless overcome the initial stages of the corporate lifecycle and operate in innovative sectors through a relatively simple ownership structure, made up primarily (82% of companies replying) of one or more individuals involved in corporate management. The presence of large industrial groups is marginal (12%), as is the presence of a widespread stockholder base (2%), or companies with of a primarily financial nature (4%).

The businesses analysed are characterised by their position at an intermediate stage or upstream of the manufacturing chain, in other words where the customer is another business (95% of the sample), structured around a business model based on the order (70%), rather than a catalogue of products established in advance. To this we must add the fact that many of these businesses depend commercially on a small number of clients (just over 50% of the sample are businesses for which at least 40% of sales come from their three largest customers in terms of business volumes). In spite of the small size of the businesses, their direct competitors are primarily located abroad (56%) or within the national frontiers (33%).

Although the main characteristics of the businesses analysed could potentially condition their innovative activities, some positive aspects do emerge: in the three-year period 2006-2008, 58% of the companies have introduced product innovations, approximately 32% has introduced process innovation based on the adoption of new technologies, and 22% organisational changes designed to introduce new manufacturing processes or ways of delivering services. To this we should add the fact that 60% of the sample claim some form of technological superiority for its products/services compared to their main competitors. Where systems to protect the value of innovations are concerned, no fewer than 33% of the businesses have a national or international patent. Innovation activities seem to be guided primarily by the desire to increase business volumes: this is certainly the strong point that underpins the sample. The goal of improving efficiency and operating flexibility seems to be less important.

There are however some shady areas: the financial commitment in research and development is still limited. Fewer than half of them declare that they have invested in research and development between 2006 and 2008. To this we must add the fact that approximately 60% of the sample has no patents and has not filed any applications for this type of intellectual property. Only approximately one third of the sample reveals a standardised approach to research and development. Similarly, 37% of the businesses does not seem to have any structured research and development projects, and in 50% of the businesses that do have some structure, none of the projects has a broad timeframe, concluding beyond the next 12 months.

Two alternative approaches seem to emerge, distinguishing businesses' approach to innovation. On one hand (20%), companies with a strategic focus of containing product costs essentially concentrate their innovative activities on manufacturing processes, supported by a market in which they operate with a high level of competition and numerous competitors. On the other (55%), businesses that have based their competition on elements of differentiation, concentrate their innovative activities on the introduction of new generations of products, which results in a higher investment in R&D activities. This produces two effects: 1) the innovative activities of these businesses are primarily guided by the objectivs of growth on the market; 2) these businesses have a higher share of sales deriving from products launched in recent years.

Key customers are the source of knowledge to which businesses turn most frequently. Only 34% of the businesses attribute an important role to collaboration with universities or research centres as the source of innovation. It is important to note that micro-enterprise or start-up businesses are more likely to attribute high importance to this type of source.

And finally, the main obstacles that the businesses in the sample have to face in the innovation process are related to a lack of financial resources to invest in R&D, and insufficient, or hard to exploit, forms of public funding of innovation. It is however interesting to note that 60% of the sample declared that in the last four years it had taken advantage of some type of incentive on at least one occasion. To this we should add that about 19% of the sample reported difficulties in accessing bank credit. As a result, for 68% of the sample, the man tool to sustain investment in innovation remains cash flow by the business, a factor that can delay or actually block a company's innovative activities particularly in times of economic crisis like the present. And finally, among the obstacles facing businesses, the availability of skilled workers seems to be of limited importance, indicating that access to skilled human resources in this region is less of a problem than access to financial capital.

4.3.2 The Catalogue

Activities were backed up by the preparation of an **updated catalogue of innovative businesses in the province of Torino**. In time, this catalogue will make it possible to monitor the level of innovation present in the city and province of Torino, by constantly surveying the businesses. Because approaches to innovation and the ways it is undertaken vary widely in the different sectors, the companies surveyed in the Catalogue are classified on the basis of **macro-areas of activity** which make it possible to group them in three manufacturing clusters:

- Manufacturing (e.g. automotive) and advanced manufacturing (e.g. aerospace)
- ICT & software
- Services & engineering (e.g. trade and services to businesses, research and development services).

The 410 companies in the Catalogue have provided information about their activities and about certain innovation indicators. Thanks to a simple evaluation model, based on the re-elaboration and aggregation of the information collected through the questionnaire, the companies in the Catalogue are attributed a score that measures their level of innovation within the macro-area. The rating assigned to the individual businesses in the Catalogue is designed to recognise their innovating activities; in addition to classifying the level of innovation of the company surveyed, this tool can also provide a concrete evaluation of an activity as complex and heterogeneous as innovation. **51% of the businesses in the Catalogue has obtained a very high** (18% are "AAAA") or **high rating** (33% are "AAA").

THE TORINO POLYTECHNIC INCUBATOR OF INNOVATIVE BUSINESSES

I3P, the Incubator of Innovative Businesses of Torino Polytechnic is a non-profit joint-stock consortium set up by Torino Polytechnic, the Torino Provincial authorities, the Torino Chamber of Commerce, Finpiemonte, Fondazione Torino Wireless and the Torino City Council.

I3P was created in 1999 to promote and support the creation of new high-tech businesses, exploiting the innovative potential developed in the research centres of the region. The incubator:

- selects entrepreneurial ideas with a high growth potential, offers free assistance to whoever intends to embark on a business initiative with a high knowledge content, and supports businesses in the first difficult start-up years
- offers those who intend to invest in innovative businesses a rich and select portfolio of opportunities, helping investors in the decision-making process and guaranteeing absolute confidentiality of the negotiations
- offers managers and professionals the possibility of contacting and working with businesses that have good growth prospects.

In the ten years since its foundation, the incubator has welcomed over one hundred new businesses, for a total of over 500 employees.

Over one quarter of the businesses who have passed through I3P are in the IT or electronics sector, 15% in telecommunications, and 8% in mechanical engineering. Businesses engaged in the energy field (6%), chemicals and materials (5%) and aerospace (4%) are fewer in number.

interview

Mr. Marco Cantamessa

Chairman of I3P, the Incubator of Innovative Businesses of Torino Polytechnic

Today, 10 years after its creation, I3P is the main university incubator in Italy, and one of the largest in Europe. What were the "significant" milestones that brought I3P to what it is today?

I3P currently contributes approximately 30% of the businesses born in university incubators all over Italy; three strengths underpin its creation and development. First of all, the strong links with the entities in the territory that founded I3P as a consortium, and now contact it to implement their policies related to high-tech enterprise. Secondly, certain initial decisions, such as that of welcoming aspiring business people from outside the university environment, the adoption of a "generic" model that did not specialise on a single technology or sector and, possibly because of an initial absence of space to accommodate businesses, the focus on services with added value. And finally, starting in about 2005 and accelerating significantly in the last two years, we have extended the services offered and moved our focus of interest from companies oriented primarily on services and consultancy, to business that develop products with a high technological content. This process, which results in companies with a higher risk and yield profile, is accompanied by strong fund-raising activities to collect risk capital in favour of our entrepreneurs.

What is the relationship between I3P and Torino Polytechnic

Between us and the Polytechnic there is a two-way exchange: we take a large part of our "business ideas" from Torino Polytechnic and help them to become enterprise. In the same way, incubated businesses contact the Polytechnic Departments when they need to access their skills and works, and to recruit new resources.

Who does I3P address and what are its activities?

We basically have three main activities. We supply strategic consultancy services during the process that leads from the idea to the business, helping entrepreneurs to define a business model and to develop a business plan for their companies. Other consultancy services (accounting, legal, patents, etc.)

are supplied by individuals selected and authorised by I3P. We also offer equipped premises that can accommodate new businesses and we manage a network and a high profile marketplace that draws together businessmen, professionals and investors.

I3P addresses anyone who is interested in creating a business with a high knowledge content, who can benefit from the vicinity of the Polytechnic's laboratories. Traditionally, half of the business ideas come from the Polytechnic directly, and the other half from outside, proposed by individuals and from corporate spin-offs. Every year we receive 150 ideas; from these, a group of experts within the incubator selects about 50, for which business plans are developed. An external board then assesses the best business plans, from which about 15 start-ups are created every year.

To date, how many businesses are "incubated" in I3P, how many are in the point of becoming so and how many have concluded the process?

In the ten years since it was created, 115 new companies have entered the incubator. Today we host 45 businesses, ten of which do not have premises at I3P, but are considered "virtually" incubated, only taking advantage of added value services. In all we have had 10 failures, while 58 businesses have left us and are all active today; and 2 businesses have been purchased.

The incubator is involved in a series of national and international projects. Which are the most important?

Approximately 2/3 of our sales come from projects. Today the majority of these projects are conducted by consortia, the fruit of policies promoted by our partners; other projects are the fruit of national and/or international competitions. In the early years much of our turnover was related to European projects but there has been a gradual change in the business model: today we only participate in European projects when this helps us to create business and to increase our capacity to build up an international network. One possibility for further growth is to develop partnerships with other national and international incubators, with which we can establish continuous, lasting professional relationships, which allow both parties to increase and share their technical knowledge.

Innovation in the province of Torino and in Piemonte in general, during an economic recession like the one we are experiencing today, may be the lever to focus on for a recovery. How can regional project contribute to this, such as the "Start Cup", which rewards companies' best and most innovative projects, with the highest knowledge content for the territory?

Competition business plans have always played an essential part in "stimulating" a territory because they create interest, cultural movement and competition. The "Start Cup" project, which was *known as the "Galileo Ferraris Prize" until 2004, provides much of the flow of ideas and business plans to I3P. The project creates visibility and unity of intent, even among the many sponsors interested in creating enterprise, but not our partners. The main idea is therefore to bring the energies of a territory together in a common and cyclic process while raising awareness of the issue of innovation in new territories.*

The industrial context of Torino and centres of excellence such as the Polytechnic, make the territory strategic both nationally and internationally. What are the challenges ahead?

Piemonte has a great many positive elements: the presence of researchers, patents, innovative companies, investment in R&D. What is more, there is good consistency between territorial specialisation and certain changes that are taking place: one example is the future of mobility or "green tech", which interacts perfectly with the medium-tech industrial and electromechanical specialisation of the province of Torino. In our territory we have all the necessary skills to design and build an innovative vehicle from start to finish. The territory therefore has excellent opportunities; the challenge is to succeed in exploiting them, not only by focusing on the creation of businesses, but also by supporting the growth of existing businesses.

The labour market

One of the elements of Italy's socio-economic system that has been hardest hit by the recent economic and financial crisis has been the labour market: however, like the rest of Europe, in Italy employment problems really began to make themselves felt with greater insistence during 2009, and the forecasts for the domestic and international economic scenario indicate that the first signs of a recovery can only be expected from late 2010.

The fall in employment reflects the contraction in manufacturing output in Italy since the second half of 2008, as a consequence of the reduction in domestic demand – household consumption – and trade with foreign markets.

The recovery will take two forms: in the short term, the adoption of ordinary and extraordinary "social safety valves" has arrested the strong turnover, albeit partly at the expense of the younger workforce who have found it difficult to access the labour market; however, it has allowed companies to safeguard their workforces and to protect the human capital they had invested in. In the medium and long term, research, innovation, training and skilled personnel will contribute decisively to the recovery of the business system.

As a consequence of the economic crisis, recourse to the government wage compensation fund (CIG) increased exponentially in 2009: total hours of CIG authorised grew to almost 97 million from 20 million the previous year. Ordinary CIG showed the strongest increase, from 10.2 million to 71.2 million hours, while extraordinary CIG increased by 164% on 2008.

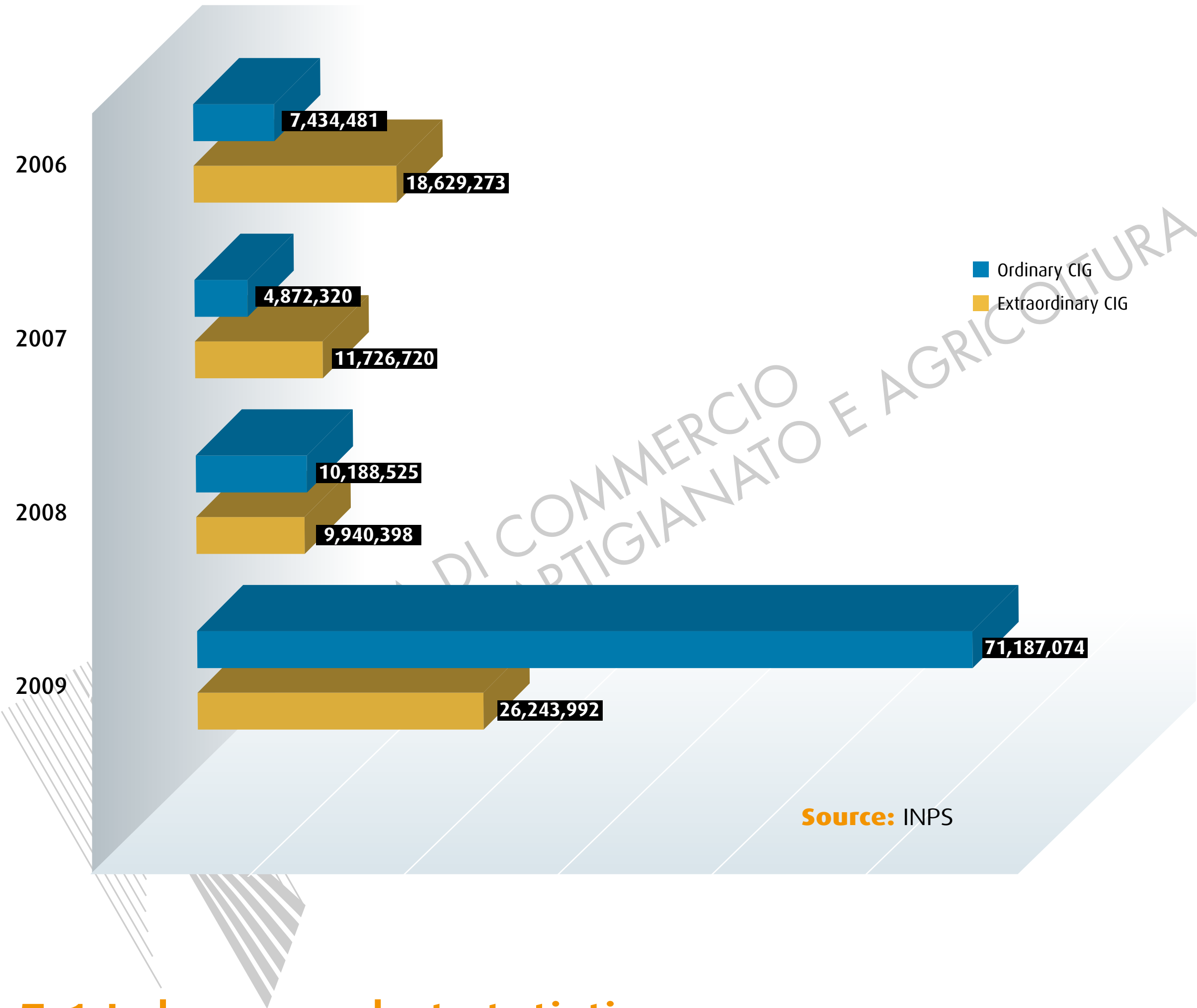
At sector level, the highest increases in the hours of ordinary CIG authorised were in metal-working (from 900,000 hours in 2008 to over 10 million) and mechanical engineering (from 6.4 million in 2008 to 46.3 million in 2009), the industrial areas hardest hit by the recession. In 2009, the number of hours of hours covered by the wage compensation fund in the construction industry, which has been one of the most dynamic sectors of Torino's economy in recent years, was double that of the previous year.

Where extraordinary CIG is concerned, the number of hours authorised in 2009 increased in particular in the craft sector (from almost 70,000 in 2008 to almost 3 million last year) and trade (from 184,000 to just under 2 million).

The most significant increases in hours of ordinary CIG were recorded in the first months of the year, when the crisis was in its most acute stage. As the first weak signs of a recovery appeared in the Summer

of last year, the increase slowed down. The trend for extraordinary CIG, on the other hand, was exactly the opposite: it grew towards the end of the year, after the deadline for recourse to ordinary CIG, and for many businesses the crisis became structural.

Chart 35 Number of Wage Compensation Fund hours authorised in the province of Torino



Source: INPS

5.1 Labour market statistics

The first regional data for 2009 reveal that the labour market was still very sluggish at the end of the year. The first indication comes from the strong growth in unemployment (up 36% according to ISTAT estimates), from 5.0% to 6.8% (from 100,000 to 137,000 units). This is the highest level for the whole of Northern Italy, where the average was just 5.3%. And it peaked at 7.8% in the last quarter of 2009: the number of people looking for jobs rose to 157,000. ISTAT figures indicate that employment levels fell by 25,000 and the employment rate by over one percentage point, from 65.2% to 64%. Women were particularly hard hit, and female employment fell by 1.4 points (from 57.1% to 55.7%); this put the European target of 60%, set for 2010, even further away.

The main indices adopted to analyse the **labour market in the Torino area** confirm that, because 2008 closed before the effects of the crisis became apparent, 2009 was hit extremely hard by the difficult economic situation that is affecting the area.

The **workforce**[24] in the province in 2009 remained above one million, the level achieved in 2008. This represents approximately 52% of the regional workforce and little more than 4% of the national figure.

On the supply side, the **activity rate of the population aged between 15 and 64**[25] was 68.4% in 2009, down from 68.6% the previous year. Torino is the third last of the Piedmontese provinces in terms of the activity rate of the population, followed only by Verbania (67.1%) and Alessandria (65.6%). Where **occupation trends** are concerned, in 2009 the number of people employed fell by 29,000 in the province of Torino to 943,000 (a 3.1% contraction on the previous year). Analysis by **sector** reveals an even stronger contraction in the manufacturing industry (down 8.4% on 2008). The number of people employed in services, an economic sector that has grown constantly in recent years, also contracted but to a lesser extent (-1.8% compared to 2008), while employment levels in the construction and agricultural sectors both increased (by 2% and 6.3% respectively).

As a result, the **employment rate**[26] also fell in 2009, to 62.6% (from 64.7% in 2008): Torino is in 6th place among the Piedmontese provinces, followed only by Novara and Alessandria.

Following the recession which has caused the loss of thousands of jobs, the **unemployment rate** for the Torino area has risen to 8.3% (from 5.6% in 2008) and the number of people seeking jobs has increased from 57,800 in 2008 to 85,600; this is much higher than the increase for Piemonte as a whole or than the national average (up 48.1% on 2008, compared to 36.3% and +15%).

Table 23 Employment in the province of Torino (in thousands)

	2009	2008	% CHANGE 2009/2008
Agriculture	17	16	6,3%
Manufacturing industries	228	249	-8,4%
Construction	67	65	2,0%
Services	631	643	-1,8%
TOTAL	943	972	-3,1%

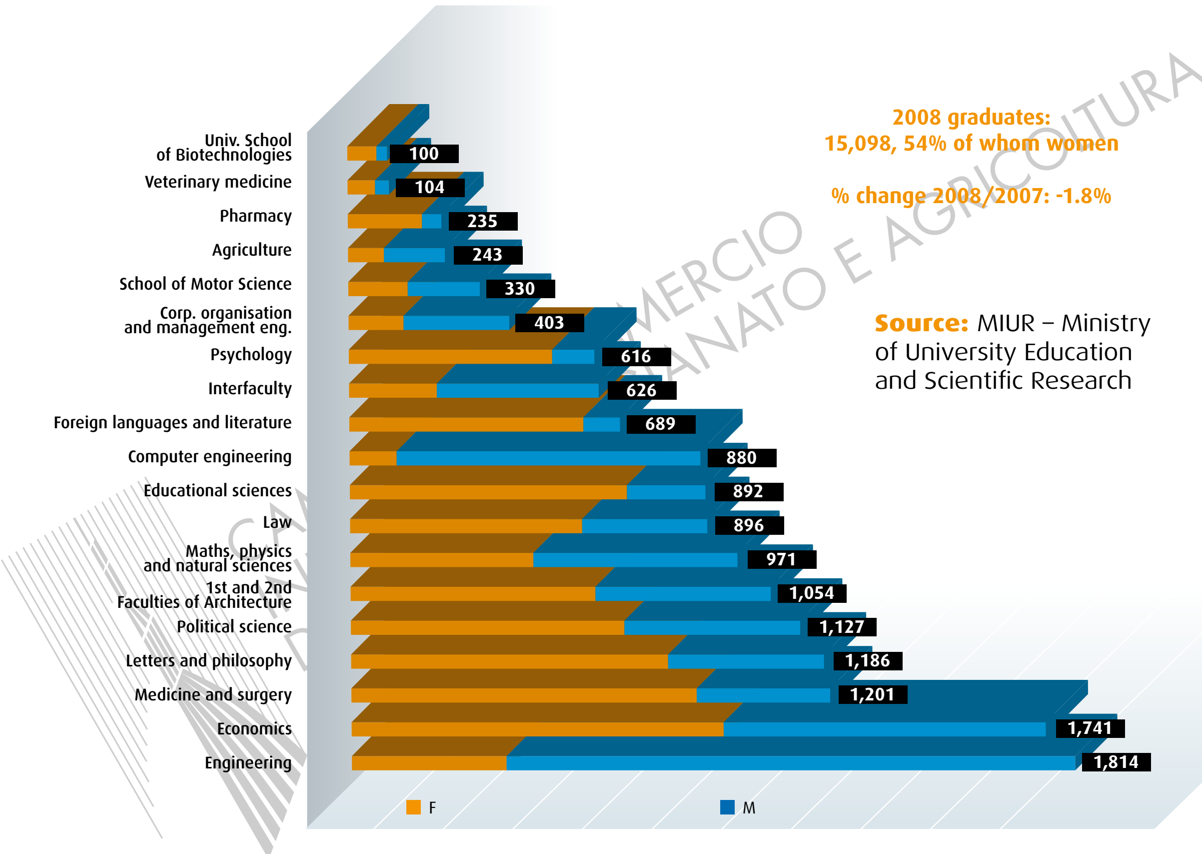
Source: Elaborated by Torino Chamber of commerce from Istat data

[24] The workforce includes people employed and those seeking jobs.
[25] The activity rate is the ratio between the workforce aged 15-64 and the population in the same age bracket.
[26] The employment rate is the ratio between people employed aged 15-65 and the population in the same age bracket.

5.2 University and postgraduate training in Torino: some figures

The excellence of the higher education in the province of Torino is universally recognised: in 2008, students graduating from Torino University and Polytechnic exceeded 15,000, a slight contraction on 2007 (-1.8%).

Chart 36 Degrees and diplomas by faculty and gender
Torino University and Polytechnic. 2008



Source: MIUR – Ministry of University Education and Scientific Research

Like previous years, the highest number of students taking degrees and diplomas was in the faculties of Engineering, Economics and Medicine. Compared to the previous year, the faculties of Medicine (+10.8%), Architecture (+2.8%) and Economics (+1.9%) recorded an increase in the number of graduates during the 2008 solar year, while Political science (-13.5%), Letters and philosophy (-5.9%) and Engineering[27] (-5.6%) all decreased. Female graduates accounted for 54% of the total (8,158), and their number has grown constantly in recent years, while the number of male graduates fell by 2.4% compared to 2007.

[27] This includes three faculties: Engineering I, Engineering III (Computer Engineering) and Engineering IV (Corporate organisation and Management engineering).

The total number of students enrolled (three-year and specialist degrees) for the 2008/2009 academic year was 82,946, 8% down on the previous academic year: 52% of these were women.
Where **traditional postgraduate training** is concerned, the number of students studying for 1st and 2nd level Masters degrees and research doctorates remained significant. In the case of masters, a total of 1,537 enrolled for the 2007/2008 academic year, however this was a 13% decrease on the previous academic year; on the other hand, the number of students taking diplomas increased by 3.6%.
The number of students enrolled in research doctorates remained stable: during the last academic year for which statistics are available (2007-2008), they numbered 2,006, 32% of whom attached to faculties of Torino Polytechnic. The genders were equally balanced, but the number of foreign students increased: from 11.8% in 2006/2007 to 16.6% of the total the following year.

Table 24 Postgraduate training courses: Torino University and Polytechnic

		1ST LEVEL MASTERS		2ND LEVEL MASTERS	
	SITE??	TORINO POLYTECHNIC	TORINO UNIVERSITY	TORINO POLYTECHNIC	TORINO UNIVERSITY
Enrolled (2007/2008 ac. year.)	Male	60	254	161	371
	Female	30	451	66	144
	Total	90	705	227	515
of whom foreign	Male	21	34	59	18
	Female	5	80	13	5
	Total	26	114	72	23
Diplomas (2007)	Male	42	237	122	85
	Female	24	274	61	104
	Total	66	511	183	189
of whom foreign	Male	7	41	36	12
	Female	2	41	18	14
	Total	9	82	54	26

Source: Ministry of University Education and Scientific Research

Chapter VI

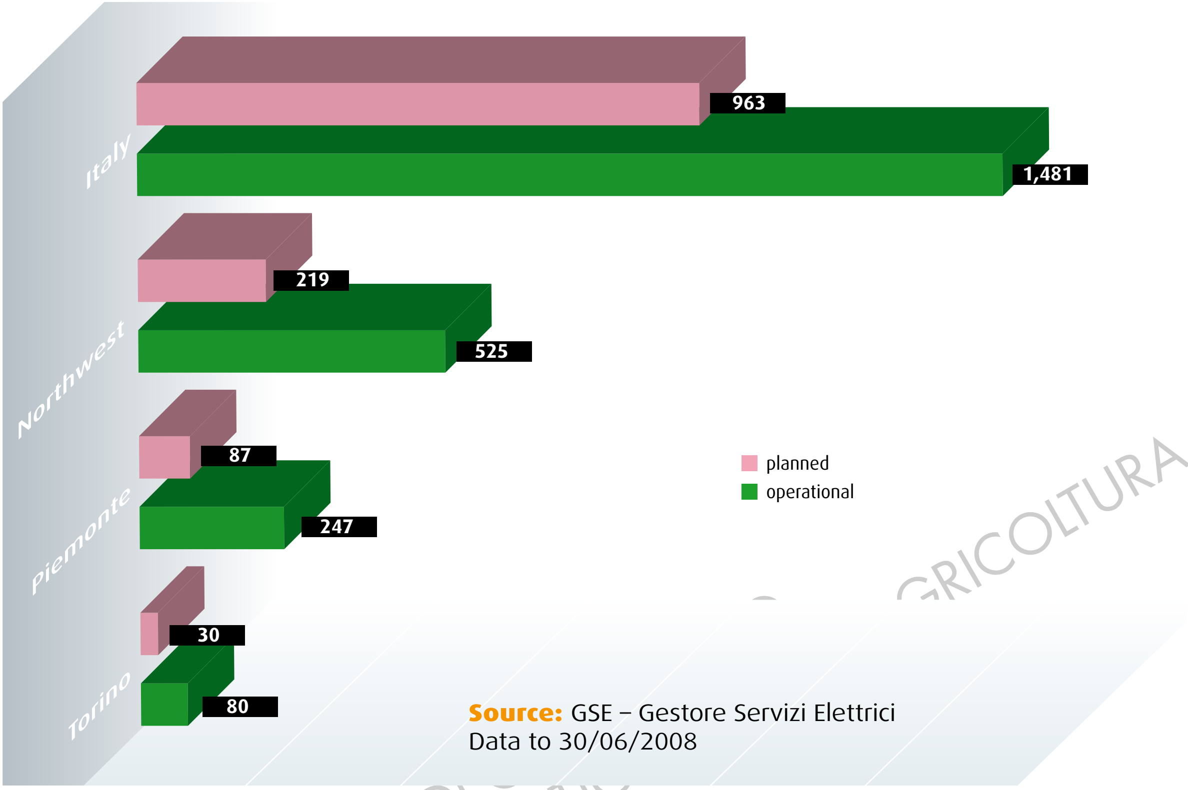
Energy and the environment

The European Union has set a number of important targets to be reached by 2020, designed to guarantee a more sustainable future. These include the "20 - 20 - 20 policy": to reduce forecast energy consumption by 20%, to reduce greenhouse gas emissions by at least 20% and to increase the percentage of renewable energy out of total energy consumption by 20%, all by 2020. Piemonte's environmental and energy strategy respects these guidelines; in the context of the regional operating Plan, since June 2008 the Region has been implementing a series of projects that use funds made available by the European Union as part of the European Regional Development Fund programme for 2007-2013. The measures envisaged include: the rationalisation of energy consumption, the generation of renewable energy in manufacturing facilities and the creation of new plants. With green engines, "eco-friendly driving", renewable sources of energy and the reduction of energy consumption, Piemonte aims to become one of the most eco-friendly regions of Italy.

6.1 Energy generation and consumption

In Piemonte, net energy generated totalled 24,304 GWh at the end of 2008: approximately 28% is generated by hydroelectric plants (487, 12 more than in 2007), and the remainder by thermoelectric plants (146, +13). Photovoltaic systems still have a limited significance in terms of energy generation, and in 2007 the net output of these plants amounted to 2.6 GWh, but it is growing, together with other renewable sources of energy: the province of Torino is one of the four Italian leaders in terms of square metres covered by solar panels, photovoltaic systems, and biomass plants. In fact, the number of electricity generating plants supplied by renewable sources of energy has increased: in the first half of 2008, there were 80 operating plants in the province of Torino, compared to 66 in the same period of 2007, with 30 in the pipeline (29 a year earlier). This represents 32% and 34% respectively of those built or planned in the region of Piemonte.

Chart 37 Number of plants supplied by renewable sources of energy*



Source: GSE – Gestore Servizi Elettrici
Data to 30/06/2008

N.B.*: renewable sources of energy (art. 2 of Leg. Decree 387/03) refer to non-fossil sources of energy (wind, solar, geothermal, wave, tidal power, hydraulic, biomass, exhaust gas, residual gas from purification processes and biogas).

The latest available data recorded overall annual energy consumption of electricity in Piemonte of 26,175.7 GWh (down 1.9% on 2007): almost 44% of this was used in the province of Torino. Industry remains the primary user of the electricity generated, accounting for 56.2% of total consumption.

Table 25 Electricity consumption by province – 2008

PROVINCE	AGRICULTURE	INDUSTRY	SERVICES*	DOMESTIC	TOTAL	%
Alessandria	28,1	1.872,1	649,1	505,6	3.055,0	11,7%
Asti	20,7	509,7	257,1	250,3	1.037,9	4,0%
Biella	5,5	773,5	230,5	217,9	1.227,3	4,7%
Cuneo	126,0	3.352,1	726,9	629,3	4.834,3	18,5%
Novara	23,5	1.558,1	563,1	409,4	2.554,1	9,8%
Torino	60,3	5.625,5	3246,9	2.562,00	11.494,8	43,9%
Verbania	1,8	493,4	268,5	180,8	944,4	3,6%
Vercelli	23,0	549,7	260,7	194,4	1.027,9	3,9%
PIEMONTE	289,1	14.734,2	6202,7	4.949,70	26.175,7	100,0%

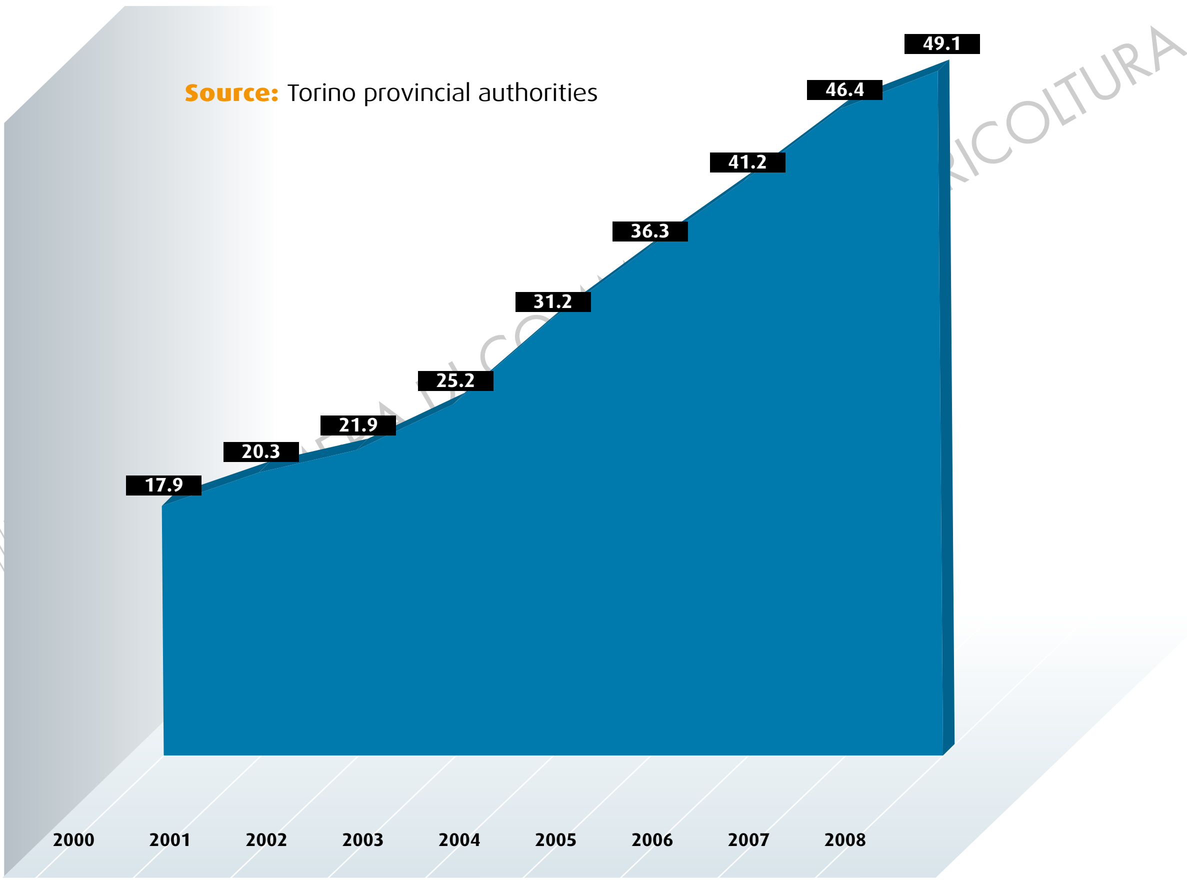
Source: Enel, GSE Spa, Terna SpA. Elaborated by Arpa Piemonte

* net of FS consumption for rolling stock traction

6.2 The urban ecosystem

On the whole, Torino offers a **good urban environment** for its inhabitants to live in. According to Legambiente's annual report "Ecosistema Urbano", in 2009 the province of Torino was in 72nd place among the 107 surveyed, an improvement on the previous year, when it was in 74th place. Torino and its province are among the leaders for the extension of its **cycle lanes** (over 100 km), and is first place among the 107 Italian provinces for **water purification**.

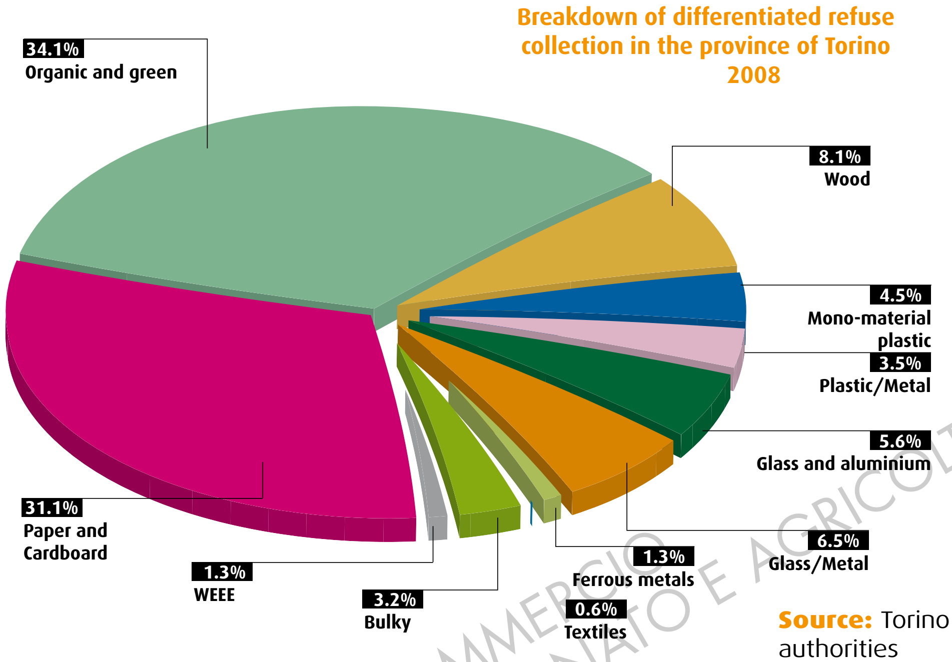
Chart 38 Differentiated refuse collection - 2000-2008 (% values) – Province of Torino



Source: Torino provincial authorities

Data for the province of Torino also show that in 2008 (the latest data available), **differentiated refuse collection** reached a peak of 49.1%, 4 percentage points above the target of 45% set by Law 152/2006 in the 2007 Budget. This constant increase in differentiated refuse collection in recent years allows us to estimate that we will reach the threshold of 50% in the Spring of 2009, a year ahead of the deadline of the Summer of 2010. Compared to the previous year, differentiated collection grew by 5.2% to over 571,000 tonnes. Organic and paper account for over 60% of this.

Chart 39 Breakdown of differentiated refuse collection in the province of Torino. 2008



Source: Torino provincial authorities

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II
III
IV
V
VI
VII
VIII
IX

The **emission of fine dust** continues to be a weak point: air quality in Piemonte is measured by a monitoring system that covers the entire region, managed by Arpa Piemonte. This network is made up of 72 stations, some of which are located in the provincial capitals, and they measure concentrations of primary and secondary polluting substances. Data for recent years confirm the tendency of a general decrease in pollution levels, although problems remain, and structural intervention is necessary to reduce emissions further. Although the average of PM10 has fallen by 25.5% in Piemonte in recent years, and violations have decreased by 45.1%, Torino and the rest of the region are still a long way from the thresholds set by the European Union to safeguard the health of the population. To respect these thresholds, in 2009 approximately 900 public vehicles in the Piedmontese capital were fitted with particulate traps, which have reduced particulate emissions by over 95% and emissions of nitrogen dioxide (NO2) by 50%. Incentives on purchases of eco-friendly motor vehicles with low emissions of polluting substances continue, and these currently account for over 40% of the entire vehicle fleet in the province.

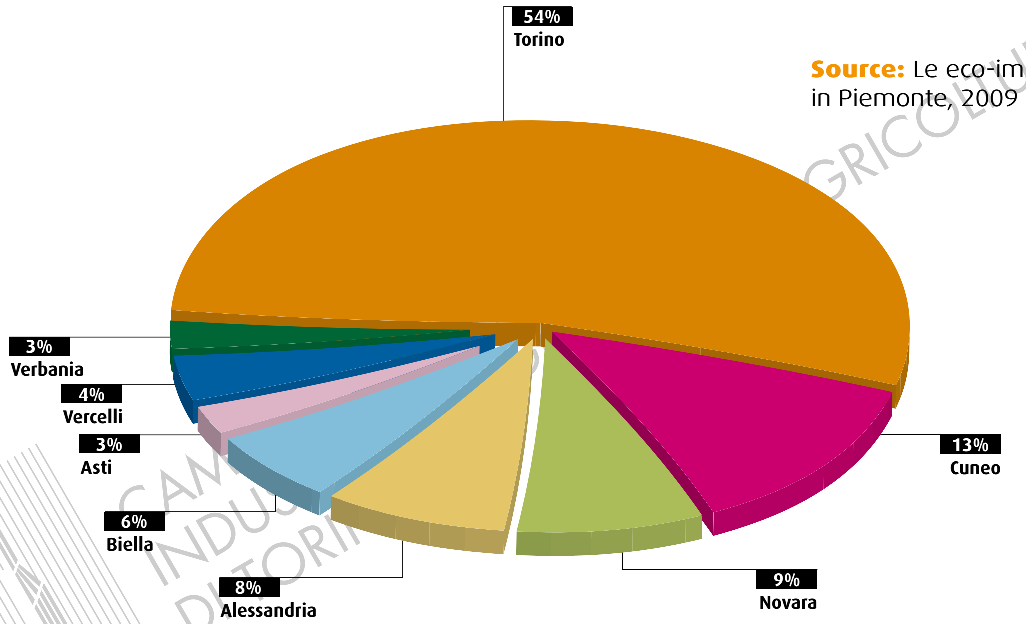
6.3 Eco-businesses in Piemonte

The results of recent research[28] show that 1,189 Piedmontese firms can be considered "eco-businesses": the term aims to embrace all the activities that are designed to reduce the impact of other human activities

[28] Carried out by the Torino Chamber of Commerce and the Piemonte Agency for Investments, Export and Tourism, in collaboration with Ambiente Italia srl.

on the environment, both by adopting eco-efficient technologies that limit the production of polluting substances "up-stream", and by the so-called end-of-pipe technologies that treat and eliminate residues.
"Eco-businesses" belong to a wide variety of different sectors: 47% operate in the energy sector (207 of these are part of the solar industry chain); 28% in refuse treatment (106 companies out of 329 recover and recycle materials); 8% in water; 3% in noise abatement and air pollution; and finally 4% in the field of services and consultancy. The highest concentration is in the province of Torino (54%), followed by Cuneo (13.4%), Novara (8.7%) and Alessandria (8.4).

Chart 40 Eco-companies in Piemonte: territorial breakdown by province



Source: Le eco-imprese in Piemonte, 2009

A sample of businesses that are representative of this sector[29] allows us to identify certain addition structural and productive characteristics: they tend to be small companies, 90% are concentrated in the 10-15 employee bracket with a few significant exceptions, while about 11% of the sample has over 100 employees. Taken as a whole, the potential for job creation of the environmental sector can be estimated at about 35,000. 40% of the companies record sales below €1 million and 16% of the sample has an R&D budget that exceeds one quarter of corporate sales: in the last three years, 66% of the businesses declared that they had carried out research and development on new products and technologies. One in five has filed at least one patent.
As far commercial outlets, fewer than one third of the companies in the sample also export, while an additional quarter has an exclusively local market: among those that export, 49% of Piedmontese companies in the sample show an interest in the European market, but 18% of them underline that North Africa is their first non-EU market.

[29] 130 businesses, accounting for 11% of the target universe.

The credit system

Based on credit figures drawn up by the Bank of Italy, investments in province of Torino at the end of 2008 amounted to nearly €56 billion, a rise of 3.3% compared to the previous year (3.5% of the national total).

The province of Torino ranks third in the provincial investment table, behind Milan (18.4% of the national total) and Rome (11.2%).

The first nine months of 2009 were affected by the deep financial crisis but still totalled nearly €57 billion, only slightly down on the previous quarter (-0.6%). However, a growth of 2.1% can be seen by comparing these figures to the same period of 2008 (the corresponding increase the previous year was +4.2%).

By breaking this result down into the various economic sectors, company investment was down 2.6% compared to 30 September a year earlier, while household investment rose 11.7%. It would appear that households resorted to credit facilities as a result of falling interest rates, both for the purchase of durable consumer goods and to take out loans (the corresponding change for the previous year was much lower, +2.9%).

I II III IV V VI VII VIII IX

Table 26 Credit system in the province of Torino (figures for resident customers)

	INVESTMENT (€/MILLION)	DEPOSITS (€/MILLION)	BAD DEBTS (€/ MILLION)	BAD DEBTS /INVESTMENT
30-Sep-09	56,856	38,618	1,476	2.60%
30-Jun-09	57,182	37,825	1,328	2.32%
31-Mar-09	55,286	36,276	1,093	1.98%
31-Dec-08	55,633	35,964	1,011	1.82%
30-Sep-08	55,701	30,570	1,240	2.23%
30-Jun-08	55,303	31,621	1,273	2.30%
31-Mar-08	54,671	31,059	1,295	2.37%
31-Dec-07	53,868	32,851	1,271	2.36%
30-Sep-07	53,435	29,939	1,273	2.38%
30-Jun-07	52,051	32,182	1,265	2.43%
31-Mar-07	51,866	30,710	1,247	2.40%

Source: Bank of Italy

At the end of September 2009, **average business investment** had fallen compared to the same period of 2008 from €112,175 to €109,033. On the other hand, the **total average credit for households** rose slightly from €18,108 to nearly €19,000.

Turning to an analysis of **bank deposits**, these totalled nearly €36 billion at 31 December 2008, a rise of 25% compared to the same period last year. This growth was unaffected by the economic crisis of 2009 and the first nine months of the year pushed the figure up to nearly €39 billion, +26.3% compared to the corresponding period last year.

Household saving grew at a faster rate than businesses (+26.3% compared to +14.8%). The weakness of financial markets continues to make bank deposits more attractive than other forms of investment which are deemed less secure.

Household savings per inhabitant rose by nearly 26% compared to 30 September of the previous year, increasing from €8,483 to €10,649. The average total of business savings also rose, at a slower rate (from nearly €28,000 during the same period of 2008 to €31,809).

After the drop in 2008 (-20.5%), **bad debts** in the area around Torino at 30 September 2009, which totalled €1476 million), were up nearly 22% compared to the same period last year. The **bad debt to investment ratio** was also up from 2.23% to 2.6% at the end of September 2009 (+16.6%).

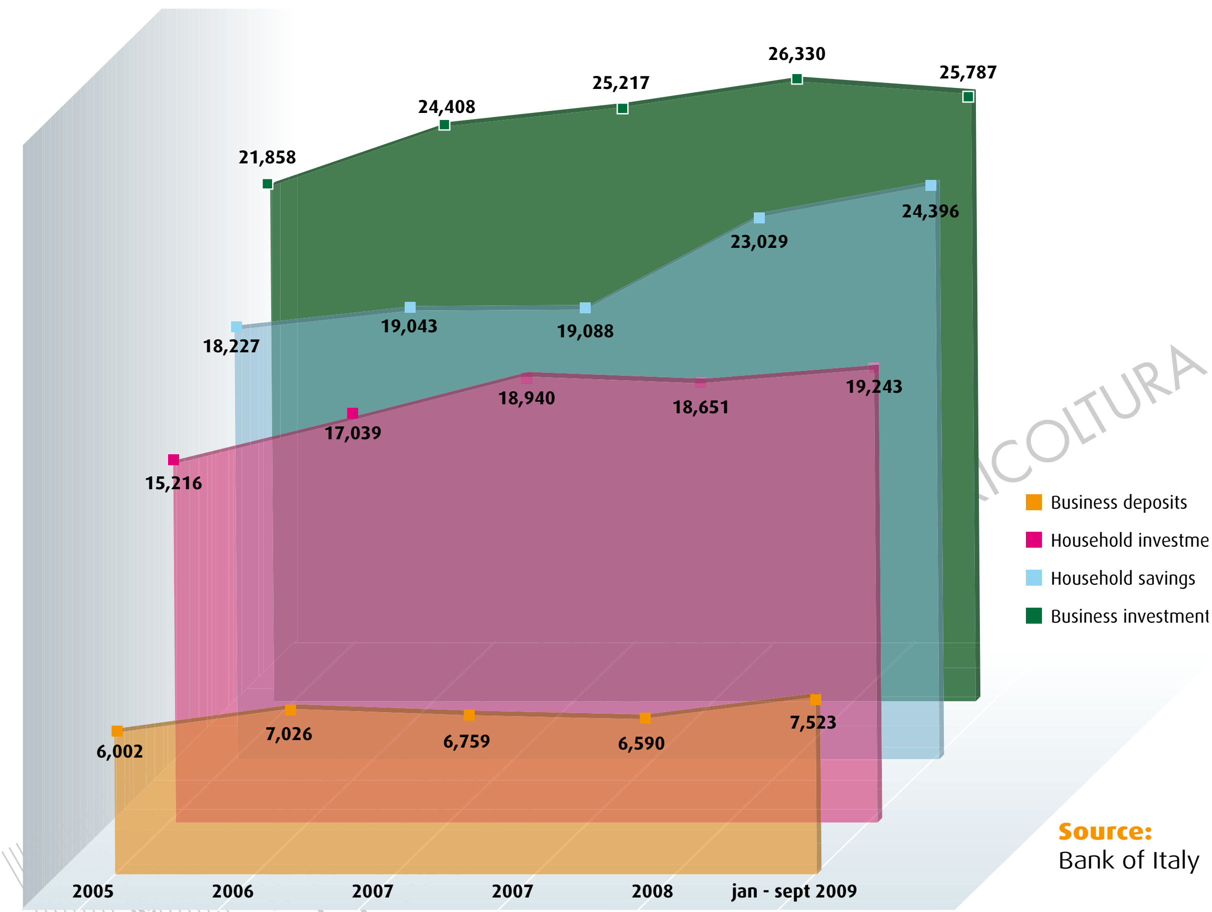
At the end of 2008 the **active interest rate applied** to overdraft facilities on current accounts in the province of Torino was 8.91%. This dropped steadily from the beginning of 2009 and by the end of the third quarter it had fallen to 5.81%, lower than that recorded for Piemonte (6.22%), but slightly higher than the national average (5.67%). The rate applied to businesses was considerably higher than that for households (6.81% against 4.69%).

I
II
III
IV
V
VI
VII
VIII
IX

7.1 Bank branches

There were 11 banks at 30 September 2009 with **administrative headquarters** in the province of Torino, while **bank branches** totalled 1,148 with 181 **municipalities served by banks**: with an average of **5 branches for every 10,000 inhabitants** and **6.3 branches for every municipality** served by a bank, these are figures that outstrip the Piedmontese and national average (4.1 and 5.7 bank branches for each municipality, respectively). After the steep growth rate of the past eight years, the number of bank branches in the province of Torino rose more slowly: the change was only 0.3% compared to the end of September 2008 (previously it had been +1.7% per year). Based on the average number of bank branches per inhabitant, the provincial figure is well below Piedmontese (6.1 branches per 10,000 inhabitants) and national levels (5.7).

Chart 41 Investment and deposits in the province of Torino, Comparison between households and businesses



Source: Bank of Italy

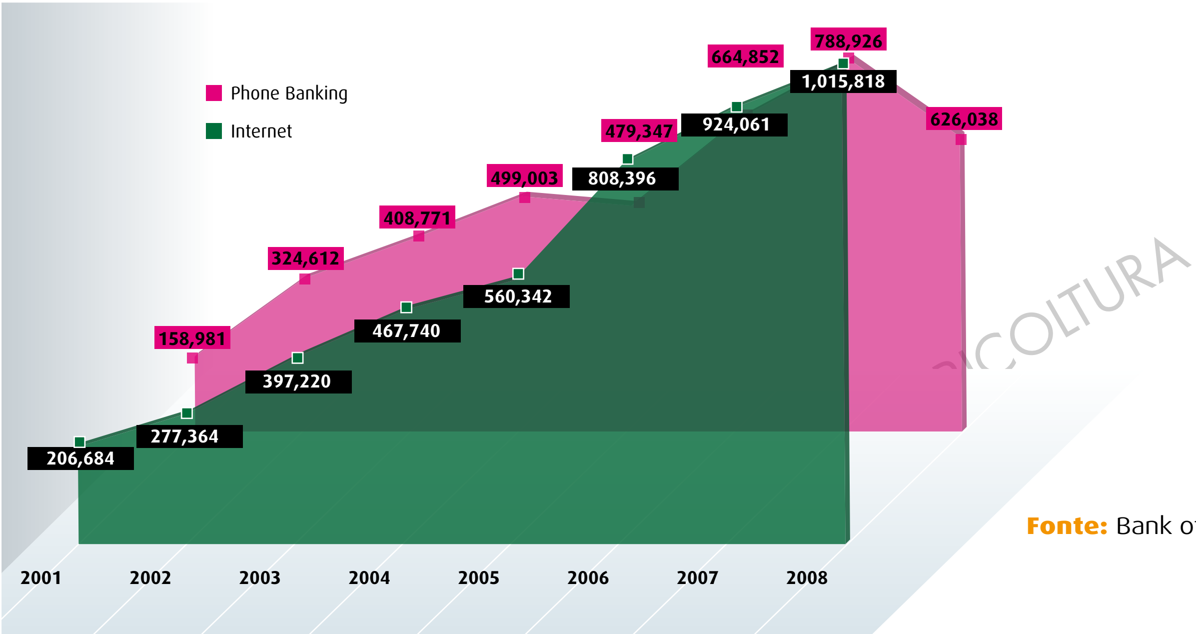
7.2 Online banking

The spread of internet in the past decade has successfully revolutionised relations between banks and their customers. In the province of Torino the number of **household customers using online banking services** in 2001 was just over 168,000; in 2008 (the latest figures available) this number had risen to over 930,000, a growth of 9.9% compared to the previous year and 454% if compared to the earliest year (2001).

The use of internet banking has also spread among businesses: there were over 84,000 customers in 2008, an increase of 9.6% compared to 2007, and double the number in 2001. In the past year the rate of growth for online banking services in the area of Torino was slightly lower than that recorded for Piemonte and nationally (10.2% and 10.4%, respectively, but +9.9% than the Piedmontese average).

The use of **phone banking** fell in the 2008 (-20.7% compared to the previous year); a similar trend was identified in Piemonte (-18.4%) and at a national level (-8.3%).

Chart 42 Telematic banking services in the province of Torino



Fonte: Bank of Italy

Transport and infrastructures

Infrastructures, both road and rail, are the fundamental basis for the social and economic development of a territory. Over the past decade the province of Torino has undertaken a series of decisive infrastructure investments that have made it a key transport node not only at a regional and national level, but also internationally.

The decision to relaunch the “National Strategic Infrastructure Programme” (Economic and Financial Planning Document – DPEF 2009/2013) instituted by the government in 2008 and the onset of the economic crisis have highlighted the urgent need to implement plans to expand the infrastructure network at a national and consequently also at a local level. Piemonte’s strategic location between two major European axes, the so-called **Corridor 24** (Genoa–Rotterdam) and **Corridor 5** (Lisbon–Kiev), has made the definition of the Preliminary Project for the new cross-border **Torino-Lyons**[31] railway line a key priority. Works are now planned to start in 2013 with a scheduled completion date of 2023.

2010 could therefore prove to be a decisive year for the territorial infrastructure network: the finalisation of plans for the high-speed railway line not only represents an important step forwards for international logistics, given that this is a key project to tackle the increased goods traffic currently focused exclusively on the existing line, but it would also resolve a number of logistical problems that directly affect the province of Torino.

The construction of the new Torino-Lyons rail link would have extremely positive repercussions on the urban redevelopment and environmental regeneration of the lower Susa Valley, both of which are seen as ways of enhancing quality of life in the area and its ability to attract economic development.

8.1 Torino as a metropolitan hub

Torino and its metropolitan area represent the key hub in the regional transport network. The major urban transformation that was driven by the Winter Olympics in 2006 will generate long-term effects coupled with massive efforts to improve the underlying infrastructure.

[31] The project was launched in October 2001 after the agreement between Italy and France of January 2001 in which the two governments agreed to build the works required to create a new mixed/goods railway line between Torino and Lyons.

The area around Turin is being restructured to create new central points, both inside the city and along the western axis of metropolitan expansion, in particular through the imminent construction of the **Corso Marche axis complex**. Equally, various initiatives will focus on the urban redevelopment of the city's outlying municipalities. Examples of this include Venaria, Borgaro and Settimo Torinese.

Following the restoration of the Reggia di Venaria and also as a result of the expansion of Caselle Airport, these towns have carried out projects aimed at regenerating urban areas and enlarging local road networks. Moreover, new development projects have been put forward to coincide with the new axis of Corso Marche; these involve Collegno (the flying field area), Grugliasco (consolidation and expansion of university developments) and also the logistics hub at Orbassano (SITO).

The infrastructure developments underlying the creation of new magnets of attraction inside the regional capital, along the "Spine"[32] or urban thoroughfares and in the satellite municipalities, focus on a range of projects:

- the Metro lines
- the underground Rail Link (known as the "Passante ferroviario")
- the metropolitan light-rail system
- the Torino-Airport link
- the "Tangenziale Est" or eastern section of the ring road

The Metro

Construction work on metro "Line 1" is continuing along the Porta Nuova – Lingotto stretch. The line needs two further extensions in order to ensure greater integration with the local transport network: to the west (Collegno – Cascine Vica) and south (Lingotto – Bengasi). "Line 2" is also now starting to take shape and will run from the north-eastern outskirts of the city as far as the suburbs in the south-west.

Rail Loop

This consists of a series of railway lines running under the city with a total track length of approximately 13 km. The rail loop, or "Passante Ferroviario", has two main aims: to include Torino in the high-speed European network (Corridor 5) and to improve the quality of regional and national rail connections.

Among a long list of other works designed to fulfil these objectives, the new Porta Susa station will act as the city's main railway station, leading to a consequent reduction of the Porta Nuova Station.

[32] The "Spine" are 4 areas of the city of Torino, all linked to the central axis or "Spina", which have been the focus of a massive urban regeneration programme over the past few years.

Metropolitan Light Rail System

This is a project that, starting from the existing infrastructure, aims to create 5 metropolitan light railway lines that will improve medium-to-short-range mobility and also facilitate interchanges between the various lines and other transport systems, thereby improving connections to and from Torino. Among the various projects focused on the hub of Torino, a key feature will be the interconnection between the Torino–Ceres railway line and the Rail Loop linking Caselle Airport to the city centre.

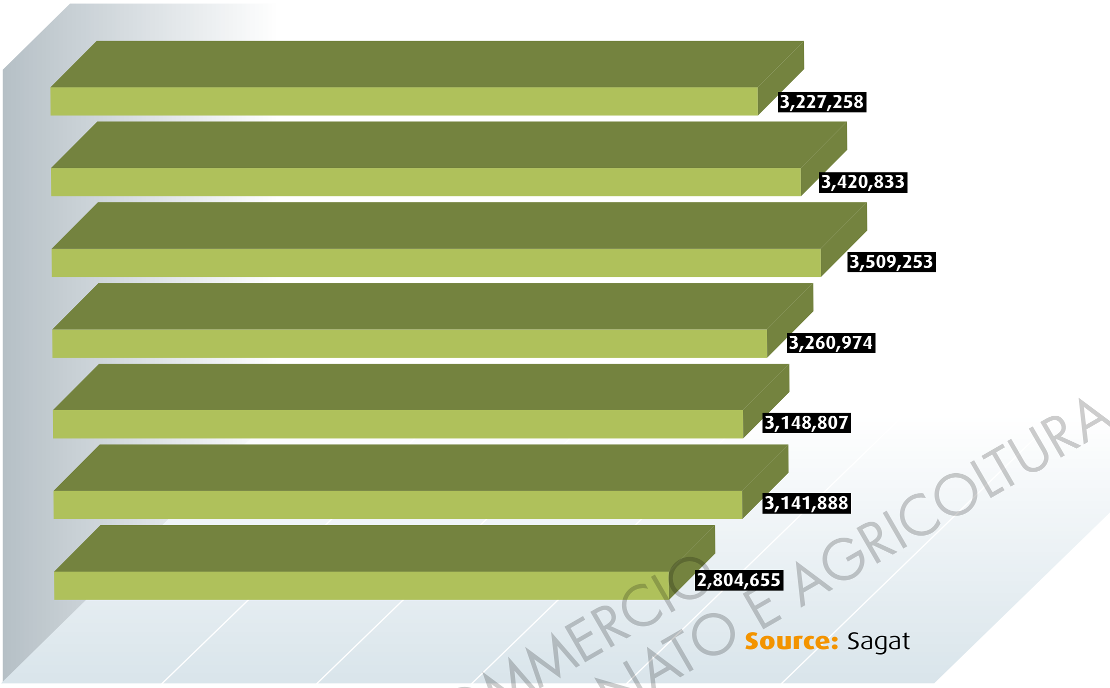
Eastern Ring Road

A round table was set up over a year ago to plan the last missing stretch of the city ring road. The new road will be about 20 km long and will involve 9 municipalities in the area. The construction of the eastern ring road will undoubtedly improve access to the city centre and to the areas east of Torino, as well as helping to relieve traffic congestion on the existing ring road.

8.2 Key figures for the province of Torino

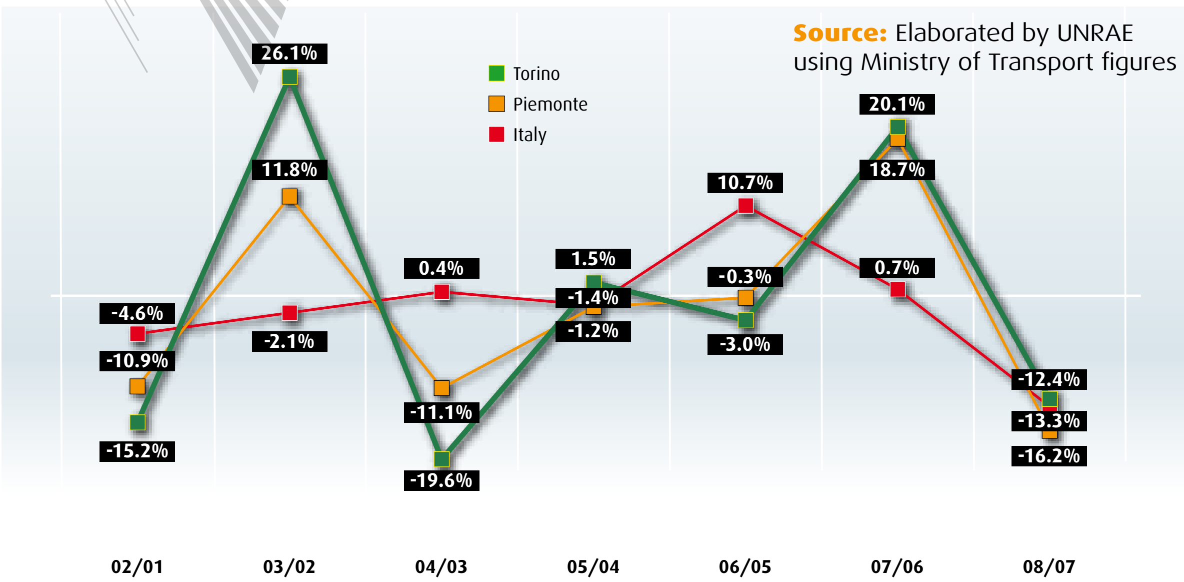
Torino-Caselle Airport underwent a programme of major expansion for the Winter Olympics of 2006 and it now represents the preferred territorial gateway, alongside the nearby airports at Malpensa, Linate and Genoa. After more than five years of rising numbers, passenger traffic through Torino-Caselle in 2009 fell for the second year running (-5.7%; 3.2 million passengers). This trend reflects similar findings at other major national and international airports: according to preliminary indications based on the final figures for last year, the total number of passengers travelling to or from Italian airports in 2009 was under 130 million, approximately 3% down on the previous year. The greatest drop was observed in international traffic turnover (namely, the number of planes landing and taking off), while national figures were more resistant. According to forecasts by Assaeroporti, air traffic fell 6% in 2009 compared to 2008, a figure that is in line with the findings at Torino airport where turnover was down 5.7%.

Chart 43 Trend of passenger numbers at Torino-Caselle Airport



Further confirmation of the slowdown of Torino's manufacturing system and the growing repercussions of the consumer crisis can undoubtedly be found in the number of new **vehicle registrations** during 2008. New registrations in the province of Torino totalled 117,252, a drop of 12.5% compared to the end of 2007. This figure is broadly in line with the national trend (-13.3%), but a slight improvement on Piemonte as a whole (-16.2%). These are the lowest figures since the 2002 recession (-15,2% compared to 2001) and the economic crisis of 2004 (-19,6% compared to 2003).

Chart 44 % change in number of vehicle registrations: 2002-2008



78% of **Torino's vehicle fleet** now consists of cars, with an average of 1 car per 1.62 inhabitants, which is slightly higher than the ratio for Piemonte as a whole (1 car per 1.60 inhabitants) but below the Italian average (1:1.65). **Motorway traffic** in Piemonte rose during 2008 (the most recent statistics) compared to 2007. The change was most noticeable on the Torino-Milan motorway where average traffic flows were 2.8% higher than the previous year; this was followed by the Torino-Piacenza motorway (+0.4%). On the contrary, traffic flows were down for other motorways in Piemonte: notably, a -3.6% fall in the average annual number of vehicles using the Frejus Tunnel.

Table 27 Motorway traffic

	Average actual vehicles (a)		Average theoretical vehicles (b)	
	2008	2007	2008	2007
Torino-Milan				
Light	30,521,838	29,510,250	13,345,824	12,468,035
Heavy	10,267,032	10,157,585	4,476,912	4,361,020
Torino-Quincinetto-Ivrea (c)				
Light	13,508,328	14,017,460	6,787,470	7,091,585
Heavy	2,779,038	2,975,845	1,238,910	1,332,980
Torino-Savona				
Light	15,946,620	15,904,145	5,984,466	6,071,410
Heavy	3,624,864	3,719,715	1,238,910	1,344,295
Torino-Piacenza				
Light	29,098,098	28,781,345	8,766,798	9,140,330
Heavy	11,200,698	11,373,765	4,270,488	4,592,065
Torino-Bardonecchia				
Light	6,578,484	6,454,660	3,260,328	3,207,255
Heavy	2,610,312	2,750,640	1,298,568	1,371,670
Frejus Tunnel				
Light	865,224	877,095	865,224	877,095
Heavy	842,898	895,710	842,898	895,710

Source: Aiscat

(a) Average actual vehicles: the total number of vehicles entering the motorway, irrespective of distance covered

(b) Average theoretical vehicles: the ratio between distance covered by vehicles entering the motorway and vehicle length

(c) Includes the stretch between Ivrea and Santhià

THE TRAIL SYSTEM: ITALY'S CHAMBER OF COMMERCE NATIONAL TRANSPORT INFRASTRUCTURE AND LOGISTICS PORTAL

In the summer of 2009 Unioncamere, the union of Italian Chambers of Commerce, launched its new national transport infrastructure and logistics portal with the technical and scientific support of Uniontrasporti. The project aims to enhance the activities carried out by the Italian Chambers of Commerce as a preferential observatory for the planning, implementation and development of infrastructure networks and nodes, and the portal is targeted at both businesses and the general population. By incorporating information and data collected on a regional basis by the network of Chamber of Commerce Observatories with nationwide information, and also adding original reporting functions, the portal aims to become the single point of access allowing constant monitoring of Italy's current and future infrastructure system. The portal can highlight the following aspects:

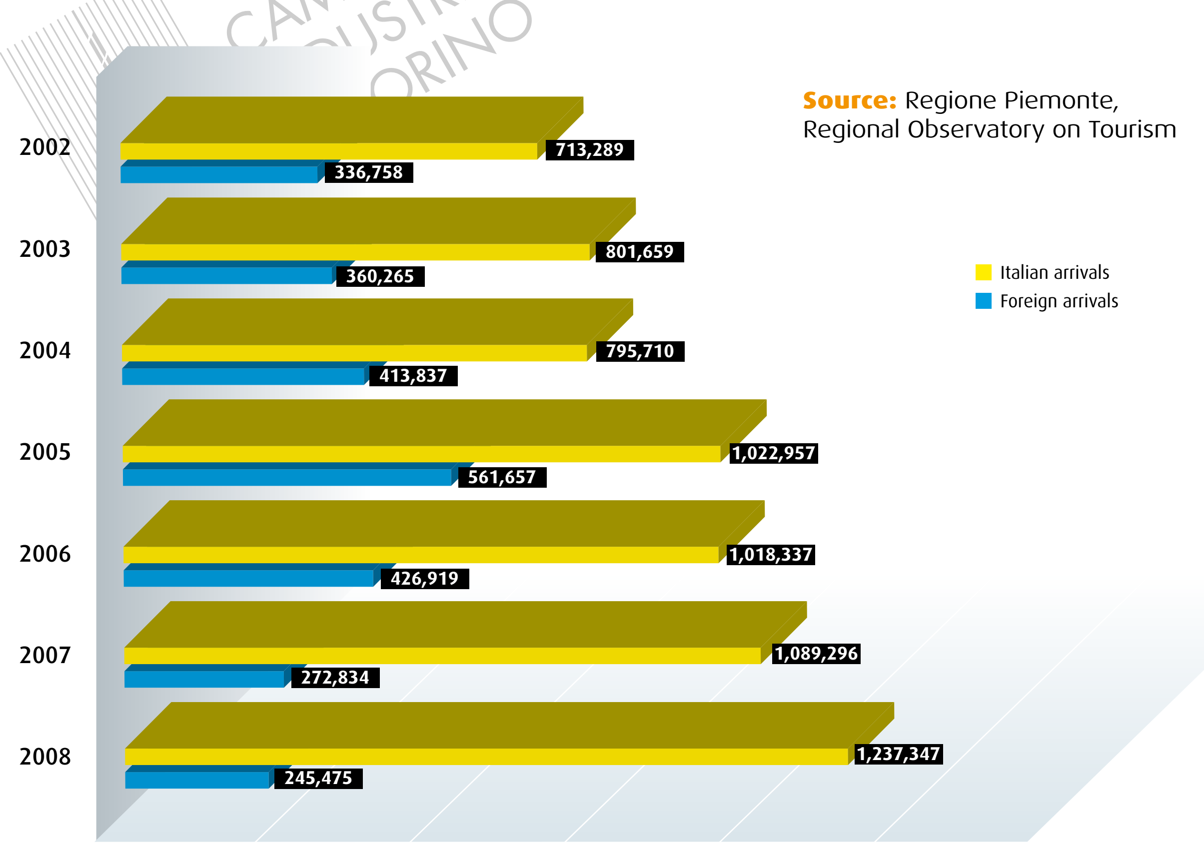
- **identify the requirements** of the infrastructure system by providing an up-to-date picture of the regional and national situation in terms of existing facilities and ongoing work;
- **combine informative and analytical functions** useful to Chambers of Commerce, government and research organisations and the main public and private players involved in activities to monitor territorial use and development;
- **back up budgeting decisions** concerning strategic planning and infrastructure construction with a view to promoting greater territorial coherence and allowing local economies to fulfil their competitive potential through a careful assessment of the development opportunities.

The portal can be found at www.trail.unioncamere.it

Tourism and quality of life

Piemonte and the province of Torino have enjoyed greater international visibility in the past few years, primarily as a result of the 2006 Winter Olympics. The city has benefited particularly from the positive effects of this major event: its recent urban renovation, including architectural and infrastructure projects, has considerably improved the quality of life in and around the regional capital, making it a destination that attracts national and international tourists.
According to the latest figures from the Regional Observatory on Tourism for 2008, over 1.4 million tourists – about 18% of who were foreigners – were registered as **arriving** in the province of Torino (+9% compared to 2007). The number of **overnight stays** also increased, with over 5.2 million registered stays, a rise of over 34% compared to the previous year.

Chart 45 Italian and foreign tourists arriving in the Province of Torino



Source: Regione Piemonte, Regional Observatory on Tourism

The figures also highlight Torino and its surrounding metropolitan area as emerging destinations with +22% of overnight stays and +7.8% arrivals compared to the previous year.

9.1 Accommodation facilities

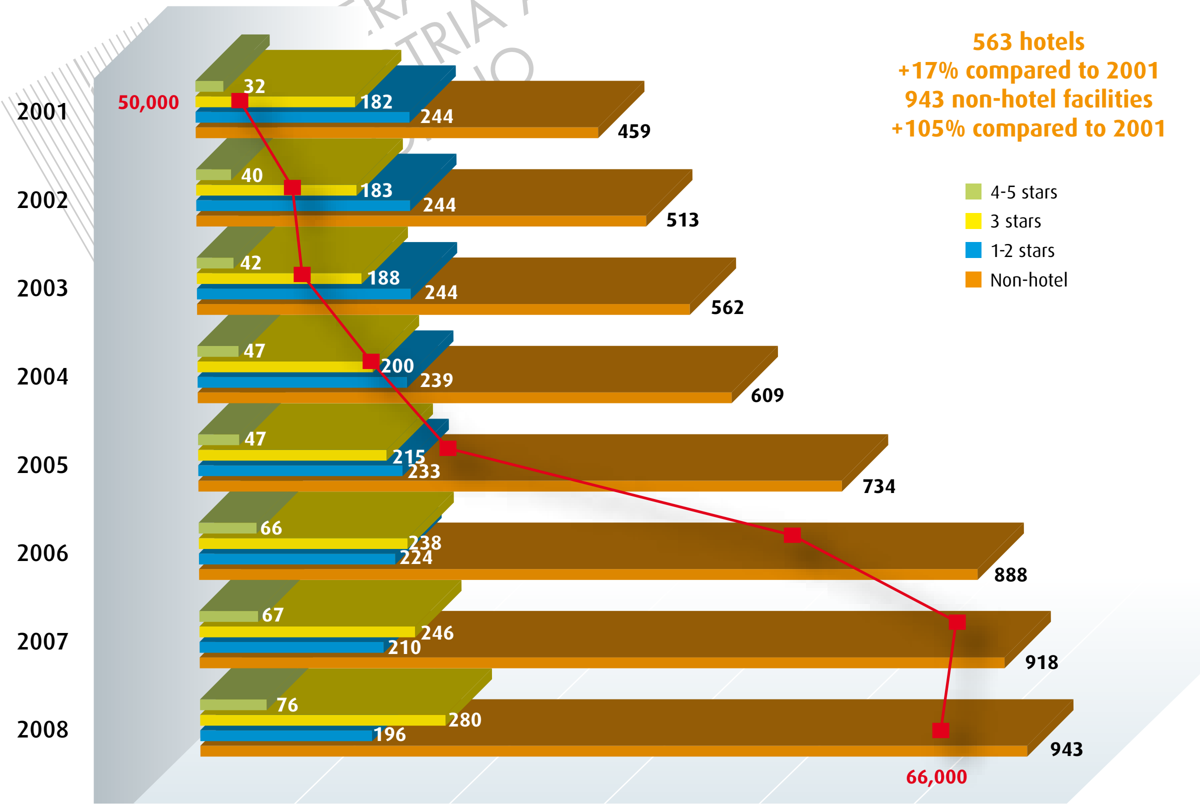
There are **1,506 accommodation facilities** in the province of Torino in 2008, divided between the metropolitan area, the Olympic valleys and the Lanzo valleys. This figure has risen steadily since 2001 (+61%; +2% compared to 2007).

Above all, there has been a steep increase in the number of **non-hotel facilities** which more than doubled between 2001 and 2008.

As a sign of the growing vocation of Torino and its province in the tourism sector, total bedspace is now **over 66,000**, an increase of 16,813 units since 2001.

The increased excellence of the **hotel sector** is confirmed by a clear rise in the number of top ranking hotels (4- and 5-star) which have enjoyed a +117% increase in the number of overnight stays compared to 2001. This has also helped to promote the province as a medium-to-high level tourist destination. There was also an increase in the number of 3-star hotels (+53.8% compared to 2001), while the number of 1-2-star hotels has fallen (-19.7%).

Chart 46 Accommodation facilities by type and capacity

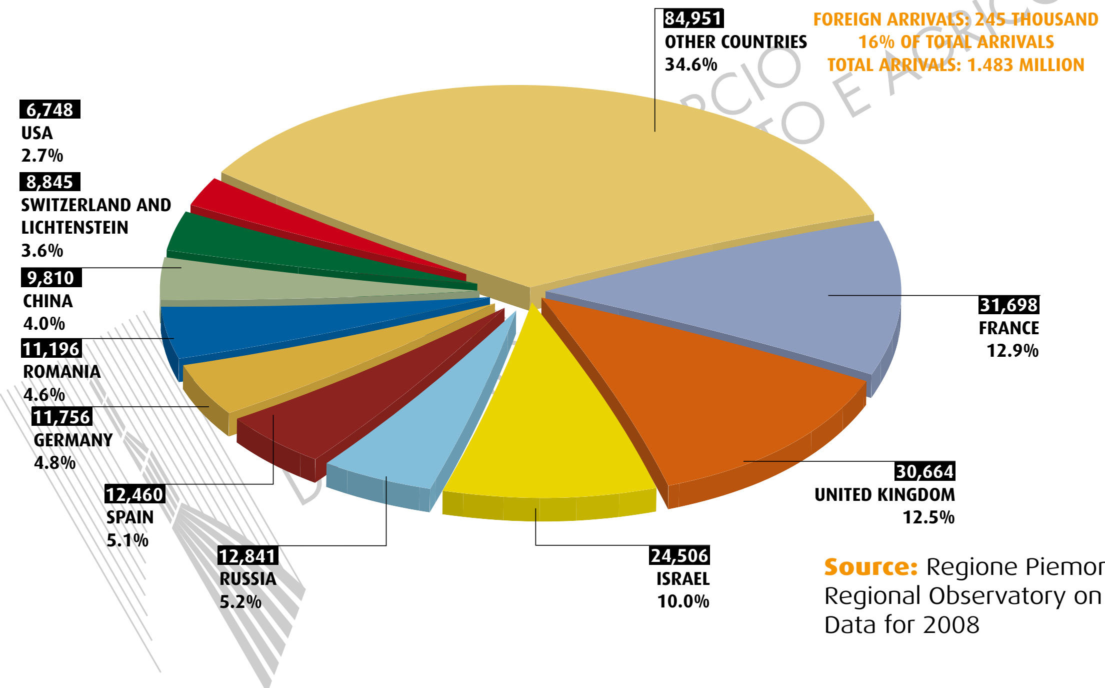


Source: Regione Piemonte, Regional Observatory on Tourism

9.2 Visitors to Torino

The past few years have seen a drop in the number of foreign tourists visiting Torino and its immediate vicinity. Just over 245 thousand were recorded in 2008, about 10% down from the previous year. Almost 13% of foreign tourists come from **France**, making them the largest group of foreign tourists in the province of Torino. They are only marginally ahead of the **British** tourists who account for 12.5% of total foreign arrivals, although this number has fallen by 11% since the end of 2007.
Israeli tourists (10%) have moved into third place for the first time, an increase of +150% compared to 2007.

Chart 47 Foreign visitors to the province of Torino by country of origin



Source: Regione Piemonte, Regional Observatory on Tourism. Data for 2008

Turning to the numbers of foreign visitors to the province of Torino, British tourists represent the largest group (20.4% of all foreign tourists in 2008), ahead of the French (8.1%). Russia ranks third with 7.5% of visitors, followed by Israel (6.5%).
As for Italian tourists, the province continues to be visited above all by the Piedmontese themselves (62% of all Italian arrivals in 2008); as for the rest, of 1,237 Italian arrivals, 8.6% come from Lombardy, 6.6% from Lazio and 3.1% from Veneto. The number of tourists from Piemonte has risen by 14% since 2007.

9.3 Congress tourism

Congress tourism has also expanded to become an important economic aspect of the province of Torino. Based on figures provided by Regione Piemonte, the number of congresses held in and around Torino in 2008 increased by 5.6% compared to 2007, bringing 1.6 million participants and 2.1 million overnight stays.

The city's congress hotels account for 9% of these stays, while the regional congress centres account for 37%. In the hotel sector, companies based in the province of Torino undertook 57% of congress events in regional hotels, while the city's congress centres accounted for 47.3% of activities organised in Piedmontese centres.

The average stay of congress participants in the province of Torino was just over a day and showed little difference between the various types of location: 1.28 days overall

Table 28 Torino's congress system 2008

	CONGRESS HOTELS	% CHANGE 08/07	CONGRESS CENTRES	% CHANGE 08/07	OTHER CONGRESS STRUCTURES	TOTAL	% CHANGE 08/07
Number of meetings	3,758	-2.3%	306	25.9%	419	4,483	5.6%
Number of participants	375,924	10.2%	1,164,908	22.2%	114,379	1,655,211	13.4%
Days of presence	389,535	4.8%	1,613,478	1.1%	116,339	2,119,352	3.8%
Average stay	1,04	-	1,39	-	1,02	1,28	-

Source: Regione Piemonte, Regional Observatory on Tourism. Data for 2008

9.4 Torino's cultural offer

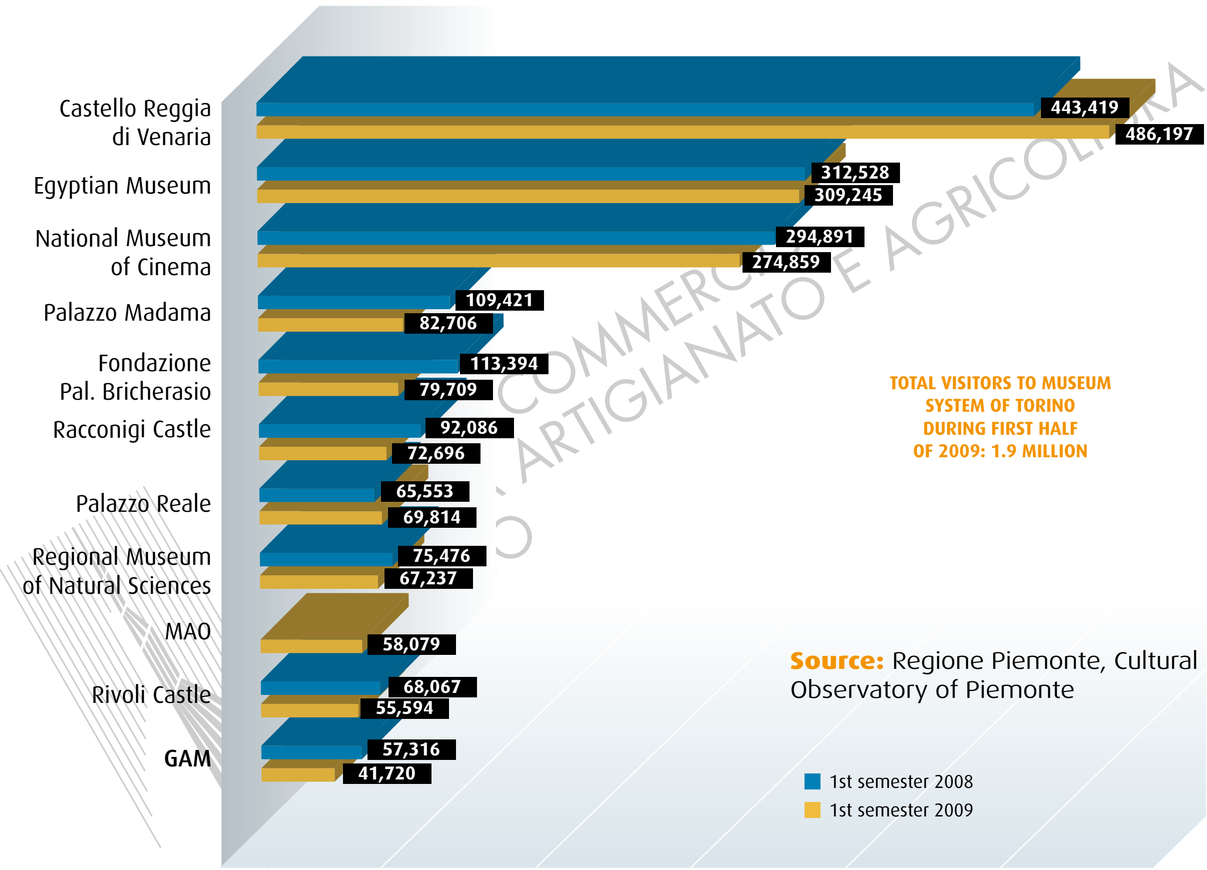
Torino and its metropolitan area have done a lot to improve and renew their image through numerous social and cultural events organised and sponsored by local authorities.

The province of Torino can boast a wide-ranging **cultural offer**: during the first half of 2009, visitor numbers to Torino's museum system totalled 1.9 million according to figures produced by the Cultural Observatory of Piemonte.

The decision to open Palazzo Madama and the Reggia di Veneria Reale on a permanent basis has expanded the cultural and tourism market and represents a major step forward in the process of urban transformation affecting the whole metropolitan area. The reopening and renovation of the Reggia di Venaria was a remarkable example of integration between culture and tourism: there were a total of 486,197 visitors in the first half of 2009. The launch of new "magnets of attraction", which enhance the cultural heritage and provide the right combination of culture and tourism, even while remaining faithful to the traditional functions of heritage, ensures a range of diversified products that suit the

national and international tourism market and are essential to preserving the Olympic legacy.
In spite of a slight drop in visitor numbers, the Egyptian Museum is second in the provisional top ten of museums, ranked by visitor numbers during the first half of 2009. In third place is the National Cinema Museum with 274 thousand visitors. MAO, the Museum of Oriental Art which opened in late 2008, joined the classification for the first time and was ranked eighth in the first half of 2009 with 58 thousand visitors.

Chart 48 Metropolitan museum system of Torino
Top 10 for visitor numbers (first-half 2009)



Source: Regione Piemonte, Cultural Observatory of Piemonte

Torino is not short of entertainment opportunities. There were 68 cinemas in the province at 30 June 2009, a figure that has remained unchanged since 2007 and the first half of 2009. However, the phenomenon of cinema decentralisation has continued: there are a growing number of “multiscreens” in the city, and fewer “historic” cinemas in town centres around the province. This has resulted in a less uniform range of performances, offering choices suitable for all kinds of viewers.
A further sign of the recognition enjoyed by Piemonte at home and abroad are the numerous international events organised and hosted by Piemonte and Torino itself every year.
Today the identity of Piemonte and the province of Torino is no longer linked exclusively to the manufacturing sector: major events – like the 2006 Winter Olympics or Torino’s election as World

Capital of Design in 2008 – represent key opportunities which the region has undoubtedly taken full advantage of to raise its profile on both the national and international scene.

The celebrations to mark the 150th anniversary of Italy's unification in 2011 and also Expo 2015 in Milan represent some of the challenges that Piemonte is preparing to take on in the immediate future in order to reaffirm the strong cultural and economic role it plays in Italy today.

Lastly, it is worth remembering that the Shroud was exhibited in Torino from mid April to the end of May 2010, a major event that heralded the arrival of over two and half million tourists from all over the world.