

# **Fiat Auto: Toward Globalization**

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## **1. The “forced” internationalization**

In order to look at the internationalization process of Fiat by the right perspective, one must start with the fact that the first and most important intuition of Giovanni Agnelli Senior was that the Italian automobile industry, on the supply side, necessarily had to adopt an international focus. In other words no Italian car manufacturer (although the same was true for European ones) could think of growing and developing by looking just at the domestic market. As a consequence Fiat was born with a marked international attitude which shaped all initial production and market choices: a considerable amount of investments, the acquisition of modern machinery, in large part from abroad, a high level of vertical integration, a strong participation to international sports events in order to exploit marketing effects. Without a focus on the vast international market one could not launch a truly industrial automobile production, able to exploit the advantages of economies of scale both in new product development and in production methods.

Today this attitude could be taken for granted, but at that time it wasn't so. Contemporary people might look at the automobile industry as an industrial activity *ever since* reserved to a few makes, but in reality this wasn't true. According to the *L'Auto d'Italia* review, in 1907 there were 58 firms in Italy established to manufacture cars, and 46 of which had already started operating. Most of them were located in Northern regions (23 in Piemonte, 16 in Lombardia, 6 in Liguria), but also in Naples there were 6 firms<sup>1</sup>. Today we do not even remember the name of these automobile firms because the selection process towards an oligopolistic structure of supply took place very early, and based upon the capabilities to acquire strong economies of scale. This meant that there was a strong imperative for all automobile firms, except the American ones<sup>2</sup>, to structure themselves in order to supply many foreign markets besides the domestic one.

Exports clearly require also a commercial network and Fiat, not differently from other European firms, starts a gradual process of development of its own foreign branches. The first stage lies in the activation of foreign agents. In some cases they are independent operators who, lured by sports successes of the Italian make, stimulate the Turin firm to grant them the representation in some prestige places like Paris, London, New York. This process begins very early, in 1902, with the appointment of an importer agent in France and in the USA.

The process of development of foreign branches becomes systematic after World War One. In 1919 Fiat Hispanian and Fiat France are established, and during the following years twenty other branches are added: both in major markets like Germany (1922) and England (1924), in markets where important developments are expected: Argentina (1923), Brazil (1927), and finally in markets where possibilities to grant

production licenses or to activate companies for vehicle assembly are evaluated, like Poland or Turkey.

The outcome of this fervent initiatives clearly emerges in the growth of exports. Between the two world wars Fiat was the car maker with the highest ratio of exports to production, with shares changing, year by year, but on average above 60%.

## **2. The “adversed” internationalization**

After World War Two the reconstruction of the Italian industry begins a period of strong economic growth which favours the expansion of the automobile industry. Fiat, by the management of Vittorio Valletta, heads this process with a rapid reorganization of the plants and the launch of new models. However the attitude is not immediately aimed at manufacturing vehicles for a mass market. Post-war production exceeds the pre-war record already in 1949 with 70,800 units (against the 52,978 in 1939), but without the launch of a popular model adjusted to the spend capability of the average Italian family. This behavior is partly driven by a prudential choice by Valletta, who intends to take a leap towards a true mass production only after being certain that the domestic market is ready. But it is also the outcome of a short-sighted politics of the Italian government who did not consider automobiles as an essential element of the industrial and economic growth of a country, but on the contrary as a wealthy consumption good to be heavily taxed.

This behavior dated back to the fascist period which had applied an extremely heavy fiscal drive both on fuel and on road taxes for vehicles, but which it continued also later one, and being increased. In 1958 fuel price in Italy was clearly exceeding that of other European countries, also those without a national automobile industry, and which would have had more reasons to operate a politics of restraint on motorization. The effect of the road tax is similar, which in Italy is highly progressive, according to engine size, while in other countries there is a regressive approach.

So when the motorization process takes off in Italy, Fiat is forced to specialise more and more in lower market segments than other countries. The first popular car for the Italian market is launched in 1955 with the Fiat “600” model, and is followed just two years later by a model even smaller in size and in engine, the Fiat “500”.

The transformation of the vehicle parc in Italy clearly shows the new attitude of the Italian demand for automobiles. In 1951 vehicles below 750cc exceed those between 751 and 1,200cc by 25%. In 1960 these ratios have completely changed. The smallest segment is over twice than the second, and ten times larger than the third one. In conclusion, the strong fiscal incidence applied to automobile usage has significantly distorted the segmentation of the Italian market compared to the European one, and has progressively reduced the possibilities for Fiat to compete in foreign markets on higher segments of automobile production<sup>3</sup>.

## **3. The “denied” internationalization**

The growth of the Italian market and the forced specialization in lower market segments had yielded a strong decrease in the degree of internationalization of commercial opportunities for Fiat. It was a weakness factor which was very clear to the management of the company. Gianni Agnelli himself had underlined this aspect.

"Along the whole talk so far I have tried to demonstrate that the frequent difficulty of trends in different markets, especially those with higher economic development, the progressive unreversible disappear of national economic protectionism, the growing diffusion of uniform models of consumption, plus other factors will determine that the company will not be able to base and guarantee its security and its development, at least in Europe, within a single market.

It is the world marketplace - which will be more and more single and homogeneous - which will be the playground where the future of our companies will be determined.

In this market the decisive role will be played by the share of presence that each car maker will be able to ensure and defend.

It is just above a minimum size that sales results can give guarantee of stability over time and of further growth, by allowing on the one side the efficient utilization of modern distribution and promotion tools, and on the other side those high production volumes which are necessary in order to reach maximum cost competitiveness.

This determines the absolute necessity for Fiat to increase its participation to the world market and this most just by referring to most sophisticated markets and with higher motorization rates [...] but also to "new" markets, those of under-motorized countries"<sup>4</sup>.

To the President of Fiat it was clear that the need to acquire a large size, on an international basis, is not linked just to the issue of economies of scale and cost compression, aspects which are undoubtedly important in automobile production but which, as the experience of Japanese firms has demonstrated, can be partly compensated by a more advanced management and by a higher labour productivity. It generally relates to a need linked to economies of the whole company, linked to all main operating areas: from research and development to purchasing, from commercial distribution strategy to politics of integration of the production line.

As seen the talk of the President of Fiat had deeply nailed the challenge of the world automobile industry, and had underlined the key passages through which the international projection of the Italian automobile group had to be achieved. It must be remembered the attempt to acquire Citroën. The company, founded by André Citroën in 1919, had been able to rapidly acquire a major spot in the French industrial scenario, but the technological breakthrough of the products and the modern marketing attitude had not been matched by a corresponding financial success. André Citroën's drive to grow and win moved him to a policy of continuous launch of investments and renovation of machinery which maintained the company in a situation of permanent financial stress. In 1934 the economic situation of the company collapsed and André Citroën had to step back leaving the company to Michelin which had the most credit due for supply.

Also under the new management the Citroën make distinguishes itself with products of very high level, such as the revolutionary model "DS" introduced in 1955, but without taking off completely on the economic side. After all the Michelin ownership, radicated in tyre production, cannot move heavily in automobile activities by becoming a strong competitor of its most important customers: Renault and Peugeot.

In 1967 Fiat decided to sell its participation into Simca to Chrysler, because it takes shape the possibility, much more important for its internationalization strategy, to enter Citroën's capital with a considerable share. The project takes shape in october 1968. A joint announcement of the two car makers declared an agreement of close collaboration, preventively approved by the authorities of the two countries. The agreement determined:

a) the constitution of a joint committee in charge of overseeing: research activities, investments and production programs, purchasing and sales:

b) the definition of a financial agreement, which integrates the technical relationship, plus the establishment of a financial company, Pardevi, of French nationality, to which the majority of Citroën S.A. stocks would be given.

The initial split of Citroën's capital gave 35% to Michelin, 15% to Fiat, 1,66% to Berliet. The rest is fragmented among a multiplicity of subjects. A major event took place in february 1970: Citroën's capital was increased and Fiat participated with a heavy share. The new situation saw 28% to Michelin, 26,9% to Fiat, 7,1% to Berliet and the remaining 38% to the public. At this point some resistances on the French side began to appear. Fiat, as Avvocato Agnelli declared in a press conference at the opening of the Turin Show in 1972, plans a progressive integration of the two product lines, and a rationalization of the production capacity able to yield a marked increase in productivity and competitiveness of the two makes. On the contrary, in Citroën they tended to protect the identity of the French manufacturer and consequently the differences between the two makes, or at least this is the official reason.

Knowing the following developments, it could be argued that most resistances came from the political side. Not only General De Gaulle would have negatively considered Fiat's entrance in Citroën, by considering it some kind of offense to French *grandeur*. Given the difference in size, this agreement ended up being seen as an acquisition of Citroën by Fiat<sup>5</sup>. But also other French car makers would have adversed the entry of a foreign competitor, which was one of the leaders of the European scene at that time, and which would have exploited the Citroën's venture to become a dangerous competitor also in the French market. The agreement was ended in 1973 and in 1976 Michelin had sold to Peugeot the control package of Citroën, demonstrating the preference of the political power towards an all-French solution.

In the strategy of Avvocato Agnelli, presented in Parliament in 1969, the agreement with Citroën represented the most important step towards that process of growth and internationalization believed necessary in order to correct and strenghten the route of development of the Turin firm. It was a particularly far-seeing choice, made with considerable advance and designed in a period of positive market trend, and therefore accompanied by the best conditions for success. Citroën would have probably gained more from this agreement than it actually had by being absorbed by Peugeot. Both because product lines of Citroën and Fiat could integrate much better than those of the two French companies, and therefore Citroën would have been granted the mission to occupy the prestige market segments, and because the absorption by Peugeot occurred parallely with that of Simca-Talbot, in a perturbed market stage which moved Peugeot to partly cancel some programs of renovation of Citroën's models.

#### **4. The "missed" internationalization**

The predilection of Fiat in general, and of Avv. Gianni Agnelli in particular, for the idea that the chances of survival and success for individual car makers are directly related to production volumes is largely known<sup>6</sup>. Therefore it is not surprising that in 1984, as soon as the signs of market recovery and especially of Fiat competitiveness became clear, Vittorio Ghidella's attention, Ceo of Fiat Auto, did consider the possibility to negotiate an agreement with another industrial company. The behavior of managers at Ford of Europe was considered the most encouraging among them emerged with the manufacturers contacted. The first probing meetings confirmed the convergence of the viewpoints of the two potential partners and during the second half

of 1984 a true negotiation began at the highest level, represented on the one side by the Fiat Spa holding, and on the other side by Ford Motor Co. Of Detroit, centered upon a common initiative involving the controlled firms Fiat Auto Spa and Ford Europe.

Soon the parties agreed that the sharing of components did not present any specific problem<sup>7</sup>. And even the most ambitious, centered upon the joint design of one or more vehicles, showed an encouraging positive balance in the cost-benefit trade-off. However up to this point the potential savings, although significant compared to the function considered (parts purchasing and vehicle design) did not yet represent strong economies being related to initial stages of the car manufacturing activities. Hence the incentive to think of a larger venture, and to envision some cooperation which could translate into a rationalization of the production investments.

According to figures of the two partner companies, joint production of a model could have allowed savings in manufacturing costs of 10-15%, and this would have represented a quite relevant competitive lever. However the “common” management by the two partners of the policy of investments in production capacity and of production programmes represented a major quality leap compared to the two previous programs, both on an economic and on a legal and organizational standpoint. One must consider that Ford Europe had many production sites located in Germany, England, Spain, but the individual national companies (like Ford UK and Ford Werke AG) controlled the company capital of each activity, while Ford Europe was a very lean organization, with coordinating tasks, but without actual ownership of resources and plants. As a consequence, to move towards programs of rationalization of production capacity and joint vehicle manufacturing represented a very complex task, which could have been faced with adequate power only with a true merging agreement, within which each partner would have given its own plants and with a unitary structure of authority and responsibility.

One must not forget that a merger between automobile activities of Fiat and of Ford Europe appeared a very important issue on the standpoint of manufacturing economies, since the product lines of the two makes presented a high degree of overlapping. If on the one side this would have allowed to considerably trim the design and manufacturing investments, on the other side this would have required choices which would have had to privilege the most modern and efficient structures. In other words the new company emerging from the merger would not have been a *sum* of the given activities (a solution which could have been viable if the product lines and the market positions of the two makes would have been complementary<sup>8</sup>). On the contrary, what was needed was a true *integration* process. Obviously this integration would have been carefully diluted over time, but it is straightforward that it could not even begin without the clear and evident establishment of what in managerial jargon is labelled “unity of command”.

So the launch of the program of integration and industrial reorganization between Fiat and Ford Europe needed to be framed within a radical realignment of the companies. Fiat Spa, industrial holding of the Fiat Group, and Ford Motor Co of Dearborn USA would have had to establish a new company into which to convey their own automobile activities.

Notwithstanding the complexity and the uniqueness of this project, which would have represented a revolutionary event in the international automobile scenario, not just for its outcome on the international competitive equilibrium, but also for the innovative nature of this agreement with no equals, both for the industry and for the amount of

interests at stake, the signs which the press gathered at the headquarters of the two partners were definitely encouraging. The strongest proof of the “idyllic” climate of the negotiation, as it was defined by the media, came at the Geneva auto show in February 1985. At that time, for the first time, came both Bob Lutz’s (President of Ford Europe) and Vittorio Ghidella’s official confirmation of the negotiation in place. Furthermore the speech of the two managers showed that if on the one side the agreement had to be considered as a natural evolutionary product of the international competitive scenario, on the other side it aimed at the establishment of an agreement to be defined at the highest level.

As a matter of fact the potential stemming from a structure able to integrate on the industrial level the two companies, although they would have appeared in the market through individual nameplates and distribution networks, would have been very relevant. In 1984 European market shares of Fiat and Ford ranked at the top levels, with 12.8% and 12.7% respectively, followed by Volkswagen (12.1%), Peugeot (11.5%), General Motors (11.1%) and Renault (11%). Therefore the mere union would have allowed to establish a great competitor adjusted to a manufacturing capacity of over 3 million vehicles per year, and on a market share of a fourth of the European total.

But clearly if the integration would have succeeded in a satisfactory way the competitive strengths would have multiplied, starting mainly from the manufacturing costs and continuing with the various areas of activity. For example Ford would have had a privileged access to new state-of-the-art manufacturing technologies which Fiat was developing (like in the new Termoli plant), while Fiat would have benefited from the long experience accumulated by Ford in the manufacturing of low-pollution vehicles. Also, Ford could have benefited, thanks to its Italian partner, of a revitalization in vehicle style, which had been for some time one of the weaknesses of the brand. On the contrary, Fiat could take advantage of the highly internationalized structure of Ford Europe.

Then, in a more remote time horizon, synergies could have been played through a triangular activity with the USA. Both through easier commercial access and through design of a *world car*, that is a vehicle which through minor adjustments could have been marketed in all main car markets. Gianni Agnelli himself, in an interview held in september 1985, and released at the beginning of the following month, mentioned this possibility, and he even underlined that in the agreement being discussed by Fiat and Ford there were, besides the immediate effects on the automobile industry, also interesting prospects of future cooperation for many other industries in which the Fiat Group was operating.

However although on the one side the extent of the agreement showed considerable synergies and made more and more interesting the manufacturing and industrial opportunities, on the other side this vastness (and complexity) itself greatly enhanced the issue of control of the joint venture emerging from the merger. Formally one could also think of a solution seemingly balanced, which did not relegate one of the two partners in a minority position<sup>9</sup>, but given the importance of the interests at stake, a clear agreement was needed, defining who and how would have exerted the final decision power in all cases in which different positions between the two partners would have emerged. And undoubtedly problems of this kind would have come up, since the rationalization and the division of labour across different plants would have inevitably determined the closing of some plants, which consequent manpower reduction. By the way, during the spring of 1985 this kind of conflicts manifested also within Ford, for the

allocation of manufacturing of a new engine which Ford Werke would have preferred to develop in Koln, and Ford UK at Dagenham, and it acquired the traits of a “iron-arm” contest between the Bonn and London governments.

At that time the size of the two partner appeared, for some reasons, basically equivalent so the release of the final power by one of the two would then have meant a loss in role and image. Fiat lightly prevailed over Ford Europe on the automobile side, it had completed its reorganization after the long stage of crisis in the 1970s, and Fiat management had a great image on the industrial side while that of Avvocato Agnelli had no equals in Europe. But at the same time Ford’s US other company enjoyed the position of the second automobile world producer, and an international network which was considered the most advanced above all<sup>10</sup>.

It was clear since the beginning that the issue of final control was a key point for the whole operation, but as long as industrial issues were under debate there was room for negotiation. But at the end of September the issue had emerged in all its relevance, enhanced by the fact that the different legal and tax regimes under which the activities of the different companies were managed added huge complexity to the merging procedures. In other words it was impossible to determine ex ante the size of the merger. Only ex post, once resolved all problems, a clear picture would have been possible. This was increasing the importance of the issue of final power.

According to the press, at the end Ford proposed to assign management of the company being established to Fiat, but for a fixed period (5-7 years), probably until Avvocato Agnelli retired. Later, control would have gone to Ford. A solution which was not accepted by the Italian partner and which led to the interruption of the negotiation.

Undoubtedly all the other car makers enjoyed great relief at the news. According to information which came through, the agreement entailed in a decade the harmonisation of components, the sharing of transmissions, the installation of the Fire engine in the Fiesta, the manufacturing of the “Panda” in a specific version for Ford to be marketed in North European countries, the design of a vehicle replacing the “Ritmo” and the “Escort” and a new family of engines. But clearly such perspectives were not enough to overcome resistances relative to such complex agreements, and also risky, related to redistribution of power: both at company and at managerial level.

It is important to underline that this stop was not without effects for future internationalization strategies. The most important is that Fiat tended to consider (not without good reasons) as scarcely viable any form of agreement in which the attribution of decision power between the parts is not clearly defined from the beginning<sup>11</sup>. As a consequence mainly options of acquisition of other car makers are considered, and during negotiations future outcomes are designed with modest room for autonomy of the acquired firm<sup>12</sup>.

Probably the logics of the “strong” acquisition influences the evaluation of possible internationalizations, that is by making more difficult agreements with car makers with long tradition, favouring agreements with partners not only financially but also technologically weak. With this basic attitude it was natural that attention was being directed mainly towards Eastern European countries. It is clearly and interesting area: population in 1985 of about 400 million, annual production at about 2 million vehicles, and a quite modest motorization level, but due to grow<sup>13</sup>. In the mid 1980s even most prudent estimates suggested a strong expansion in consumption in these countries.

According to estimates by a reliable institute such as the *Nomura Research Institute*, sales of new cars in the USSR increased from 1.3 million in 1985 to 1.6 million in 1995, with a growth in vehicles per 1,000 population from 45 to 68. But it was a forecast based more upon the expansion of supply capacity programmed by Soviet planning, than on the actual expansion of demand. If we think that in 1985 Greece, the country in Western Europe with the lowest motorization level, had 188 vehicles per 1,000 population, one can easily understand the size of the potential market still unexpressed by the USSR and by the Eastern European countries, for which waiting times for a booked vehicle were measured by the years<sup>14</sup>.

During the second half of the 1980s the Soviet Government decided to launch a considerable acceleration in the motorization process. Many automobile firms are interested into the project. Among them there is Fiat, with a long tradition of attention towards the USSR<sup>15</sup>, and on the demonstration of technical and organizational capability supplied during the development of the Togliattigrad plant. The agreement with the Turin company was signed in November 1989, at the eve of the first visit by Head of State Mikhail Gorbaciov in Italy. The project initially entailed an investment of over 2,000 billion lire to develop a plant in Elabuga (about 500 km from Moscow) to manufacture a sub-compact car (segment "B"), with 300,000 units per year. In the April of 1990 press releases announce that Fiat had also won the agreement to develop a citycar (segment "A"), and was operating to get the project for a "C" segment vehicle. With these increases the program should have reached an annual production volume of 900,000 vehicle, for an overall investment of about 5,000 billion lire. An important aspect lay in the organization of the agreement. Different from the development of Vaz of Togliattigrad, where Fiat participated as chief of order to develop the plant "keys at hand" and to grant the production licenses, the Elabuga project was based upon a joint-venture which would have had Fiat participating for 30% of the equity, while the remaining 70% would have been controlled by Elaz, branch of the Soviet Ministry of the Automobile Industry.

Unfortunately the economic and political difficulties of the Soviet Union already in 1991 required a dramatic reduction in the project. The development of the "A" and "C" segment models was frozen, while the production of the "B" segment model was moved to the Vaz plant. The further aggravation of economic conditions and the crisis of the Soviet regime led soon after to the final cancellation of the program<sup>16</sup>.

So it vanishes one of the most important initiatives in Fiat internationalization strategy, which could have allowed even more important developments than those linked to the increase in production by about one million units. Developments linked to: the possibility to operate important decentralization in component manufacturing, with subsequent triangulation of supplies, the establishment of a considerable order portfolio for machine tools and production systems for Comau and for other Italian firms, as well as the economic and organizational establishment in the Soviet Union as a step towards other economic initiatives, such as industrial vehicle production of ground-moving machinery.

The list of vanished opportunities, for reasons independent from Fiat, includes also the Yugoslavian case. Also in this country the presence of Fiat dated back to years before, through the licensing to *Zavodi Crvena Zastava* for the manufacturing of some models (among which the "750", the "125", the "126", the "132") which had initiated in 1954. With a total population of 23 million in 1990, an internal production of 274,000 vehicles, a well developed technological level and a favourable logistics proximity,



Yugoslavia had reawakened Fiat's interest, and of many others. For example SKF, the world leader in ball bearings manufacturing had acquired a plant in Yugoslavia to supply the probable automobile developments of that country. Fiat had initiated a negotiation to acquire a considerable share of Zastava, but even in that case the worsening of the political situation and the subsequent split of the country had blocked any program of development.

## **5. Fiat Auto towards globalization: the "Project 178"**

### **5.1. Program objectives**

Because of Fiat's particular nature as "large enterprise" with a "small domestic market", the problem of internationalization had been taken into consideration even prior its establishment. This process has been developed through different quality stages and strategies, which may not be discussed in this occasion<sup>17</sup>, but evidently have a tight connection with the present globalization policy here considered as started in 1993. That year Project "178" took shape with Fiat carrying out a new decisive step in its internationalization process towards reaching a global asset. The reasons behind this project are the same as those theorised by the other automobile companies:

a) the most part of the future motorization processes will involve developing countries located outside the "Triad": Western Europe, North America and Japan.

b) motorization growth will not be given by exports as this can create insurmountable problems for the balance of trade and become increasingly necessary to plan and produce vehicles specifically designed for these countries' end-user tastes and usage conditions in which vehicle will be operated<sup>18</sup>.

c) most part of future competitiveness of automobile makers will derive from the ability to build a "matrix-type" manufacturing organization on a world-wide basis, able to match the advantages of better developed countries (high added value activities) with those of developing areas (high labor intensive activities).

The objectives Fiat Auto intends to achieve with project "178" are numerous and interrelated. Those having major undertakings are:

1. Create a production process on world scale aiming not only at a single car, but at a family of models to suit the different needs of developing economies having a dynamic motorization process<sup>19</sup>.

2. Establish an organizational learning process so to make a centralized product design in adherence to the market needs in various countries.

3. Take advantage of experience gained through establishing the *green-field* factory plant in Melfi (Italy) and its internal organization as a paradigm to apply to the various new plants made under "Project 178" in a flexible and adaptive way.

4. Ensure absolute standardization of each manufactured model version, even if planned for different markets, through a selection of suppliers and their involvement on international basis.

5. To progressively organise a global procurement system which allows to use in a flexible way the manufacturing capacity installed in different plants within the "178 project" and the suppliers' capability in order to feed with a just-in-time system the assembly lines located in different countries.

### **5.2. The Italian phase**

The new model project came to its final stage with regards to style characteristics (internal and external), in the summer of 1993. At that point a “platform-based” organizational structure, involving an external engineering company - IDEA Institute - was set up for style development. The platform was the result of the integrated expertise of every Fiat Auto departments involved in the development: Purchasing, Technology, Product Planning and Design, Administrative Control. Technicians were detached from production plants of Fiat Auto in order to report the specific needs of product use and needs (Brazil, Argentina, Poland) and of all main suppliers<sup>20</sup>. In such way a simultaneous engineering process was started, involving over 200 people.

A characterising aspect of this project is the fact that each component manufacturer is responsible for the supplies to all assembly plants: either through its own location, or, where the know-how and quality standards must be transferred and where a training for sub-contractors must be started<sup>21</sup>, through a *joint-venture* with a company already operating in that particular country. In the future there will be many warehouses supplying the different assembly plants worldwide<sup>22</sup> through an optimisation organised on many levels, coordinated by a satellite system: a) the level of available production capacity, b) the level of financial nature linked to currency fluctuations and different tariff barriers, c) that of coordination of parts of the logistics chain. This process of homogenisation and integration on a worldwide basis will be completed with the suppliers’ acquisition of ISO 9000 certification.

Some time later the platform has moved to the Fiat pilot-plant in Corso Orbassano (Turin), in which joined the Brazilian and Argentinean technicians, in charge of plant organisation in the two South American countries. The specific feature of the “178” project lies also in the fact that the platform will not end its activity when production starts (as it usually happens), but it will continue throughout the whole life-cycle of the product. One main reason is that it is expected to develop many manufacturing plants, to which it is advisable to maintain this mechanism of organisational coordination and integration. Another reason relates to procedures of continuous improvement of product and operations management which will have to be absolutely homogeneous across all countries. As a matter of fact there will be a single bill of materials for all derivatives worldwide.

### 5.3. The Brazilian phase

In January 1996 at the Betim plant<sup>23</sup> in the state of Minas Gerais, production for Palio model started and its sales drive took off in April. Production is coordinated by a computer processing system similar but more advanced than the one used in the Italian plant in Melfi. This system controls each phase of vehicle assembly, identifying all features for each car and synchronises supplies to mass production stations by logistics flow from suppliers towards the plant and within the plant. The Palio is assembled by 140 modules which will be reduced to 100 in the future.

At Betim plant, a total of 38 robots are used from steel sheet stamping (presses are fed by robotic systems), to welding (almost totally automated), to painting (partially automated), to final assembly equipped with a system of body rotation in order to facilitate operations carried out behind the vehicle. Because of production increase tied to the Palio launch and exports, in 1996 a high rate of over 21,000 staff employment was recorded and a mass training program by Fiat Automovéis was continued. This

program is oriented towards helping the application of “Integrated Factory” criteria already applied in Italy (Camuffo and Volpato 1995), in Brazil known as “*Fabrica Racionalizada*”. Also, this process is based on improving activity development through work team (“Omega”, “Cedac” groups etc.), and suggestion systems<sup>24</sup>.

The launch of Palio had a great impact also in the upward and downward part of the *filière* [Balcet and Enrietti 1997]. Concerning distribution, further sales network increase was seen and moved from 297 dealers in 1989 to 435 in 1997. Sales expansion was even faster so the average dealer size (expressed in number of cars marketed) was considerably reinforced reaching over 1,100 units, which represents an interesting size.

For suppliers the picture looks more complex. On one hand there has been a considerable reduction of direct suppliers to 200 for the complete model assembly line in Betim, but the suppliers located in the nearby Fiat plant have increased their capacity to supply the assembly lines with *Just-In-Time* techniques. Furthermore, with globalization program in progress tied to “Project 178” the rate of nationalization of component suppliers has sharply increased, and for Palio it has exceeded 92%. Regarding this, the establishment of a strong group of component manufacturers located in the state of Minas Gerais, very close to the Fiat Auto plant in Betim, represents one of the most interesting aspects of the Brazilian Fiat introduction. In fact, Fiat Auto plant in Betim, over 500 km from Sao Paulo, a Brazilian automobile pole by tradition, was considered a mistake by most observers. Actually, Fiat Auto did not only attract an increasing nucleus of local suppliers, but they can now show to supply different automobile industries operating in Brazil or in South America. As in Venezuela where a new assembly line of Fiat Automoviles de Venezuela has started since March 1997 and will be assembling 20,000 units of the “Palio” and “Siena» models.

#### 5.4. The Argentinean phase

Fiat’s decision to heavily invest in Argentina<sup>25</sup> materialised in 1995. A new plant in Cordoba for “Palio” and “Siena” was decided. This new plant imitates the Italian one in Melfi (but with a lower automated level) and was accomplished in only 18 months. In February 1996 installation of a new machinery took place and in December 1996 production started. The plant includes welding, painting and final assembly, whereas forging is outsourced. It deals with total product investment of total US\$ 640 million of which US\$ 500 million invested for product, with direct employment of 5,000 people and 15,000 indirect ones. The most mechanised areas are welding and painting.

Similarly to what was accomplished in Melfi, there is a 500,000 square meter plant for suppliers located next to the plant (1 km). A 130 million dollar investment is estimated for suppliers operating with supplies made with electronic *kanban* system as well as synchronous *kanban*<sup>26</sup> controlled by a computer system. Also, the plant is equipped with a “distribution system” of components coming from far away plants from Brazil and other countries.

From an organizational point of view the Cordoba plant reflects the “Integrated Factory” theory, based on a flat structure (5 hierarchy levels) and on employment of “Elementary Technology Units” (UTE<sup>27</sup>), which brought a wide training program of 40 million dollars, the largest ever carried out in Argentina by a single enterprise<sup>28</sup>.

#### 5.5. “Project 178” : International integration ”

As it is widely known, the "178 Project" is sold in 32 countries and currently built in 7 countries: Brazil, Argentina, Venezuela, Poland, Morocco, Turkey and India, while other initiatives have been defined in Russia, South Africa, China and Egypt (Tab.1). In Poland production of models of the Palio family (Siena and Palio SW) has started in March 1997 in the Bielsko-Biala plant, but cooperation between Fiat and the Polish industry has been ongoing since 1921. The turning year has been 1993, when Fiat acquired 90% of FSM, and established Fiat Auto Poland.

In Morocco production of the Siena and the Palio started in autumn 1997 and June 1998 respectively, by the Moroccan company Somaca, that works as a *façonist*. Fiat won an international tender to manufacture and distribute a small segment car, launched by the Rabat Government in 1994. Fiat did win the tender against Renault, PSA and Daewoo, by proposing the production of two models of the 178 project, both with gasoline and diesel fuel.

In Turkey the Fiat initiative dates back to 1971, to the agreements between the Italian group and the Turkish Group Koç, which developed into the establishment of the Tofas company, operating in Bursa where many Fiat Auto models have been manufactured for a long time. Production of two versions of the Palio models started in March 1998.

In January 1998 Fiat Auto defined an agreement through Fiat Auto South Africa (F.A.S.A.) with Nissan South Africa (N.S.A.), which owns a plant in Rosslyn. The cooperation agreement provides that N.S.A. will carry out the assembly of the Siena, Palio, Palio Weekend and Strada pick-up models. F.A.S.A. is due to monitor quality levels, and to promote the development of the local component industry, of the distribution and after-sales chain and of logistics.

In India, Fiat Auto has already established Indauto, a joint-venture with Doshi, an Indian group owner of Premier Automotive Ltd. with which the Italian group has had relationship for a long time to develop an assembly plant in Kurla for the Fiat Uno production. The Fiat Auto program in India also envisages the incorporation of Fial, a company entirely controlled by Fiat Auto, which has in progress a plant in Pune to produce Palio, Siena and Palio Weekend, with a product investment of \$200 million. Production of 178 derived models has started in 1999 at the Kurla plant, and will then be transferred to the new Pune plant with an expected output of 85,000 cars a year in full regime.

In Russia, a joint-venture between Fiat Auto and the Russian Gaz was set up and called Zao Nizhe Gorod Motors, to establish a plant dedicated to production of Palio Week-end and Siena (besides Marea). Due to the Russian financial crisis, plans for reaching 14,000 units belonging to the 178 car family, originally programmed for 1999, have been revised and put off to the second semester of year 2000. The plant should be at standard regime by 2005 with production of 120,000 units.

Fiat Auto is bringing its 178 project to China, where production of a commercial variation of the Palio world car is expected to begin within two years. Fiat Auto agreed in January 1999 to pay around \$60 million for a 50% stake in a joint venture with Nanjing-based Yuejin Motor Corporation. The stake was previously owned by Malaysian investment group Lion Corporation. In this new joint-venture Fiat Auto will initially offer technological advice prior to the launch of the commercial variation of the Palio and in about two years the small commercial vehicle will begin.

**Tab.1 - “Project 178” . The international concept.**

Country	Interested Enterprise	Production Capacity	Models Manufactured	Specific Product Inv. (million \$)	Production Start	Status
Brazil	Fiat Automovéis	391.000	Palio, Palio WE Pick-up	560	Jan. 1996	In progress
Argentina	Fiat Argentina	127.000	Palio, Siena	180	Dec. 1996	In progress
Venezuela	Fiat Automoviles Venezuela	20.000	Palio, Siena	5	March 1997	In progress
Poland	Fiat Poland	46.000	Siena, Palio WE	70	May 1997	In progress
Morocco	Fiat Auto Maroc Somaca	24.000	Palio, Siena	30	Sept. 1997	In progress
Turkey	Joint-Venture with Koç Group	114.000	Palio, Siena, Palio WE	165	March 1998	In progress
India	Fial Indauto (PAL)	85.000	Palio, Siena Palio WE	200	March 1999	In progress
Russia	Joint-Venture Con Gaz	110.000	Siena, Palio WE	205	Fall 1999	In progress
Egypt	Fiat Auto Egypt Seoudi Group	20,000	Siena	15	To Define	In progress
S. Africa	F.A.S.A. Nissan S.A.	33.000	Palio, Siena Palio WE, Pick-up	50	August 1999	In progress
China	Nanja Yuejin Motor	100.000	Palio C. V.	To define	To define	In progress

Source: Fiat Auto

Fiat Auto will launch the Siena sedan version in Egypt<sup>29</sup> in the spring of 2000. Meanwhile Fiat Auto has formed a joint-venture company to import, sell and service its car in Egypt. The new venture, Fiat Auto Egypt will be 51% owned by Fiat Auto. Seoudi Group will own 44.1% and Nile Engineering Co. 4.9%. Seoudi Group will assemble the Siena from complete knockdown kits produced at Fiat-Koç joint-venture plant in Bursa (Turkey). Investment will be over \$15 million. Production at full capacity is expected to be around 15.000 unit a year.

Fiat reached a cumulative production target of one million units of the Palio family cars in May 1999. This was far below than expected, since the South America economic slump slew down operations. At present Fiat plans to make around 420,000 178-derived cars in 1999, up from 417,000 in 1998, 319,000 in 1997 and 149,000 in 1996. It is a world car or, better, a world family, since the “178 project” encompasses five different models. Every model will be manufactured in an identical way in all plants, not just on the component standpoint, but also on the quality one, in order to obtain a production system able to allow flexibilization mechanism on a world-wide basis, through exchange of parts and finished vehicles

From a technical-engineering point of view, standardization started at the design level. In the pilot plant of Corso Orbassano in Turin there is a sort of “Conservatory of weights and lengths” with the “sample” parts. It dictates the product and manufacturing

specifications to which all Fiat and supplier plants must conform to. Then there has been an intense effort of standardisation on the suppliers' side. All suppliers of the "178 project" are world-scale suppliers which have committed to ensure total technical and qualitative consistency of components, irrespective of production sites.

Finally a key role is played by the organisational and cultural integration of employees. Besides a continuous exchange of personnel across the different areas, a video-conferencing system has been set up to discuss key development stages. It is one of the most relevant and complex aspects of the project. It is just worth noting the different time zones of the areas involved and the variety of the languages. With regards to recurrent technical communications a system of instant translation of electronic messages has been developed, so a supply order generated in Turkish language in Bursa (or in any other assembly centre) will be automatically translated and transmitted in the language of the receiving plant, be it Polish, Brazilian or Indian.

Accomplishment of this globalization strategy should get competitive results. First of all, strengthening of market penetration in the different interested areas. The importance of displaying a product specifically made for developing countries and availability of local output base have already given important market results as shown in Tab. 2.

**Tab.2 –Fiat Auto penetration in different markets - 1998**

Country	Market Share	Rank	Country	Market share	Rank
Italy	43%	1°	France	7%	5°
Spain	4%	6°	Germany	4%	7°
United Kingdom	5%	7°	Venezuela	13%	N/A.
Western Europe	11%	3°	Argentina	21%	1°
Brazil	30%	1°	Poland	35%	1°
Turkey	28%	1°	Marocco	47%	1°

Source: Our data processing from Anfia, CCFA.

**Tab.3 – Fiat Auto sales turnover share**

Area	1994	1997	2004
Italy	40,55%	39,00%	25,00%
Rest of Western Europe.	32,95%	32,00%	25,00%
North America	0,06%	0,01%	0,01%
Latin America	25,13%	25,00%	25,00%
Rest of World	1,31%	3,99%	24,99%
Total	100,00%	100,00%	100,00%

Source: Fiat Auto

Another of the most relevant competitive aspects of this process is represented by a re-equilibrium of the sales markets. According to the automobile industry plans, by year 2004 the turnover should set-off to an equal share among the four principal areas: the Italian market, remaining Western Europe, South America and the rest of the world (Tab.3). Obviously this balance will come with considerable expansion of a business figure and therefore a reduced rate of sales turnover produced by the Italian plant does not implies a contraction of absolute business value and domestic employment. Finally, we expect income to increase not only as an effect of sharing market risk in a plurality of countries with asynchronous trend, as in the case of Europe and

South America which effect has already shown in latest years, but also as general efficiency increase tied to the reorganization of Fiat Auto Group as a global solution.

## NOTES

<sup>1</sup> See Volpato [1993].

<sup>2</sup> Only the US market presented, at the beginning of the century, a size which allowed to many firms to reach the necessary dimension in order exploit the economies of scale of the industry. See Federal Trade Commission [1939] and Rae [1972].

<sup>3</sup> For more analytic elements see: Volpato [1998].

<sup>4</sup> Agnelli [1971].

<sup>5</sup> In 1972 Citroën manufactured 649,000 vehicles, compared to over 1.5 million for Fiat, to which other activities must be added.

<sup>6</sup> Gianni Agnelli declared in 1978, during the annual Fiat meeting: "Who manufactures 3 million vehicles per year is in an aggressive position. Who manufactures 2 million is fine. Who manufactures just one million survives". A similar concept has been reported in many other interviews.

<sup>7</sup> The most natural option for this kind of cooperation seemed the joint design and manufacturing of a family of transmissions with which to equip the vehicles of the two makes. Fiat and Ford had already cooperated in the past to develop some automatic transmission ("Selecta").

<sup>8</sup> During the same period there were talks of interest by Fiat towards BMW. In this case there would have been a problem of identity for the BMW brand, but on the design and manufacturing side the partnership would have basically been a "sum" of the two companies.

<sup>9</sup> One of the proposals examined entailed the distribution of the company capital as follows: 49% to Fiat, 49% to Ford, and the remaining 2% to the Paris merchant bank Lazard Frères. But according to Ford this outcome, seemingly neutral, would have in reality favoured Fiat, given the long-time relationship of the Agnelli family with the merchant bank.

<sup>10</sup> One of the options available to Ford US was its participation to Mazda capital, a Japanese car maker which showed difficulties on the financial and competitive side, stemming from a relatively modest size, but which had some interesting strengths (the only company to manufacture vehicles with rotary engines) and which had a structure like Ford already valorised in the US and in the Far East (manufacturing of a sub-compact in Korea in joint venture between Ford, Mazda and Kia), and which could have developed also in other markets, including Europe.

<sup>11</sup> The same events occurred in most important and recent joint-venture initiatives have reaffirmed the issue. See the Renault-Volvo case, cancelled at the latest stage, and the Rover-Honda one, stopped abruptly for the acquisition of Rover by BMW.

<sup>12</sup> Among the reasons underlined by the specialized press at that time, in interpreting the missed acquisition of Rover and Saab there is also the concern of acquired companies of losing their autonomy and identity. As a matter of fact the recent acquisition of Rover by BMW appears marked by the willingness to maintain the absolute distinction between the two nameplates.

<sup>13</sup> Eastern European countries in which in 1985 national automobiles were manufactured were USSR with 1.2 million vehicles, followed by Poland and Yugoslavia with about 250,000 vehicles, the Democratic Republic of Germany with 200,000 and Czechoslovakia with 100,000.

<sup>14</sup> According to what declared by the Minister of the Soviet automobile industry, Nikolai Pugin, in the mid 1980s the waiting time for a car wholly paid at the moment of booking, ranged from 3 to 5 years.

<sup>15</sup> Fiat's strategy of attention towards the East began in 1912 (Russia) and continued in 1916 (Hungary) and in 1921 (Poland).

<sup>16</sup> Recently Russia has reopened negotiations to develop a sub-compact car. The most credited partner to develop an Opel model is General Motors.

<sup>17</sup> The internationalization process has played a role of extreme importance in Fiat competitive development, and has known a complex evolution of situations and strategies. Concerning this, Volpato [1997] distinguishes four different phases of internationalization anterior to the present globalization policy.

<sup>18</sup> In Brazil, for example, road network accounts for approximately 1.8 million kilometers, but only 13% is paved.

<sup>19</sup> Production is articulated on five models: a two volume hatchback named “Palio”, a station wagon, named “Palio Weekend”, a sedan named “Siena”, a pick-up named “Strada” and a mini-van. The customer’s choice is then widened by four different set up options and multiple motorization.

<sup>20</sup> Part of these suppliers were in charge of producing custom made components and have therefore worked in co-design.

<sup>21</sup> Basically, every Project “178” supplier must become a “global supplier”.

<sup>22</sup> For example three families of engines are expected, manufactured in Italy, Brazil and Argentina respectively. Hence the engines will be supplied to all assembly plants which in their turn will exchange body parts.

<sup>23</sup> The first Betim plant was established in 1973. On Fiat Brazil experience see Volpato [1996].

<sup>24</sup> From 1992 to 1996 over 80,000 ideas for improvement were presented, reaching 85% rate of application.

<sup>25</sup> Fiat presence in Argentina goes back to end of ’50s. Assembly slowed down with the 1973 oil crisis and in 1982 stock control was handed over to the local Macri Group [Volpato 1996].

<sup>26</sup> In electronic *kanban* supply is just-in-time and concerns a certain lot of the same component. In synchronous *kanban* each component is specific (seats of different colors) and sent in ordered way according to a specific sequence of assembly line.

<sup>27</sup> There are 18 UTEs, five in welding, four in painting, and nine in final assembly. For a detailed analysis of UTE structure see Camuffo and Volpato [1998].

<sup>28</sup> Among other things, the investment has brought the establishment of a Permanent Training Center for Fiat Auto Argentina staff as well as suppliers, distributors and service network as main step to develop further forms of integration.

<sup>29</sup> Fiat Auto held almost 19% of the Egyptian passenger-car market in 1998.

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