Transports and Territories in a Global Economy

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Abstract

The main areas of worldwide economic interests are becoming more and more interdependent due the process of globalization. Therefore where, how, and how much to produce, in regard to the consumer markets, also become important elements for the processes of planning the networks and regulations for services management.

However, at global level, three large economic "Blocs" are being defined, that gradually drive the decisions of the various Countries towards making terrestrial infrastructural connections. For example, Eurasia, is a dynamic "Bloc".

At the same time the economic centre of gravity is getting lower, despite infrastructural efforts concentrated mainly in Central Europe, that are focused towards Eastern Europe.

The Mediterranean and Central Africa are involved by strong financial investments from sovereign wealth funds, in particular for the realization of major infrastructures; at this stage, ports and airports and major rail and road axes are the top priorities, that international investors are interested in.

Another key element is the connectivity of the networks in the logic of the major transport corridors to operate within the logic of the overall development.

The reduction of the accessibility of territories and of the connectivity of networks in a global process is one of the handicaps suffered by businesses, regarding both demand and offer.

The reduction of accessibility, in the past two decades, has been one of the causes of the Italian decline. There is nothing good in the reduction of traffic, and considering unnecessary the service transport policy and the infrastructures adequate and even redundant. This is the idea of sustainable decline.

The first idealization of the concept of "smart city" dates back to the beginning of the new millennium and is coined by William Mitchell, an America scholar who also coined the term "e-topia" to indicate the ideal city, a place that is able to make life easier and more attractive.

The ability to move easily within urban areas, quickly and with a low environmental impact, is considered a key factor for the quality of life in all modern metropolitan areas.

Sustainability is uniquely considered the most innovative aspect, because the environmental impact and fears related to climate change and the progressive depletion of natural resources are considered a priority at all levels.

In many manufacturing and commercial SMEs (Small-Medium Enterprises), planning activities in manufacturing and logistics, warehouse management, inventory and transportation management are not adequately supported by advanced computer systems.

Similarly, the transport and logistics companies show considerable resistance in investment for Information Technology, a prerequisite for the development of logistics outsourcing and advanced value-added services.

"A scientific development needs two "R", Rigour that can be given by mathematical methods, and Relevance, because problems must be real. Rigour without Relevance only leads to sterile models, however refined from some point of views, but useless to understand situations" (Sylos Labini , 2002).

Globalization and "The Butterfly Effect"

On December 29th, 1979, during the Annual Conference of the American Association for the Advancement of Science, Edward Lorenz a famous American mathematician, introduced the "Butterfly Effect": "*A beat of a butterfly's wings in Brazil, following a series of events, could cause an hurricane in Texas*".

Lorenz's quotation synthesizes the definition of the term "Globalization", as being the linear and nonlinear integrations and interactions in economic, political and religious fields, that represent the economic ecosystem formed after the breaking down of geo-economic barriers on a global scale.

Globalization can be summarized in three fundamental aspects:

a) interaction between the different elements under analysis;
b) rules, regulations and policies for their efficient management;
c) topics involved in these interactions.

As a starting point, we can distinguish the tangible and intangible interactions, based on the tangibility or not of the flow between the senders and receivers, that can be summarized as follows:

- Depending on the consistency of interchange, the transport and logistics sector or the telecommunications sector are the recognized players in the globalizing process;
- There is a direct proportionality between logistic and transport development, technological progress and the growth level of the economy.

For aspects regarding regulations for transport and logistics, European legislation has evolved in stages since the ECSC Treaty, art. 70, in which the transport sector was considered

to be isolated from the macroeconomy. The change of pace can be traced back to the Delors Report, "the White Paper" issued in 1986.

The transformation of the terminology, from a common to a single market, has also led to a change of the horizon towards which the EEC, later the EU, intended to go.

After about twenty-five years, the document 144 of the White Paper issued in 2011, "Roadmap to a Single European Transport Area", summarized the gradual thematic path that till then was trying to be pursued and which can be schematically presented as follows:

Economic growth → Freedom of movement → Accessibility and connectivity → Infrastructure and structuring of transport systems → Sustainability.

The implementation of the Community projects since 2003 with Marco Polo I, 2007 with Marco Polo II, and in 2010 with the regulation of the TEN-T network project, have tried to achieve the targets, but with disappointing results, due to:

– Difficulty in obtaining public and private financial resources, accentuated by the economic crisis of 2008, for the implementation of the planned investments regarding infrastructure on a European scale;
– Lack of coordination between the EU Governments, determined by the lack of economic and social uniformity existing among the various European Countries, and even between transport and logistics, and industrial and urban policies.

These two aspects are the determining factors of the difficulties in handling global processes, as the consequences of some components of the ecosystem have repercussions with a "butterfly effect".

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However, at global level, three large economic "Blocs" are being defined, that gradually drive the decisions of the various Countries towards making terrestrial infrastructural connections. For example, Eurasia, is a dynamic "Bloc".

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The Economic Blocs

The three Blocs that are nowadays redefining the map of economic, financial and migratory flows, are:

- Eurasia;
- the Western Bloc of North and South America;
- Africa.

Within each of these three great Blocs and through their interchanges, the worldwide evolution of development processes is accelerating. These basically depend on:

- transformation processes of the raw materials coming from Africa and directed mainly towards the "Chindia "(China-India) area;
- the consumer areas of North America and Europe that will be increasingly stabilised as countries that are more and more assemblers and less and less transformers,
- the challenge that is primarily played in the new consumer markets of Africa which, at the same time, are the richest sources of raw materials.

Within this context the economic-financial world players, through complex trade agreements, are seeking to define (at least) a medium-term geo-economic policy, with the awareness that business cycles are becoming shorter and shorter. In example, two projects can be mentioned:

- in the Euro-Asian area, new major rail corridors are being constructed, such as the Beijing-Hamburg which only takes 16 days and high speed Beijing-Brussels, which takes 27 days, and is an inland route covered by articulated vehicles.
- Big container ships, 18,000 TEUS (Twenty-foot-equivalent-units) will serve the major consumer markets also through a regular frequency service.

In this scenario, the geo-political balance in Africa plays an important role.

The Mediterranean and Central Africa are involved by strong financial investments from sovereign wealth funds, in particular for the realization of major infrastructures; at this stage, ports and airports and major rail and road axes are the top priorities, that international investors are interested in.

Against this complex world scenario, and considering the more and more unstable economic cycles, it is important to understand the policies necessary to ensure the processes of geo-political stability, even in the presence of the three following areas of global crises:

- the energy crisis announced a few years ago, and that manoeuvred oil prices to 145 US dollars per barrel, and then back to 40 USD after just five months, and is now stabilized at 50 USD;
- the financial crisis for all to see, due to globalisation that has driven consumerism and aggravated the public debt in Western countries; the public debt was financed by the Financial "surplus" of exporting countries such as China;
- climate changes that require significant Government interventions for the territory, the urban structures and transport models.

Southern Europe, and in particular the South of Italy, if appropriately modernised and with the strengthening of the

corridor policies, can realistically represent a great euro-Mediterranean platform with stretches of coastline becoming the jetty of the African front, with Italy as the port/waterfront that goes from Messina to China.
We should imagine the euro-Mediterranean platform as being flexible in respect of the economic development and geo-political safety, also due to the phenomena of strong migration flows of people from sub-Saharan Africa towards Europe.
In this context, the euro-Mediterranean platform based in Italy has a geo-economic-political role as a link between the main European and the Mediterranean cities, and elects Southern Europe as the centre of gravity of the Mediterranean, as a "free trade zone" (Conference of Barcelona, 1995).

The "free trade zone"

In 1995, the euro-Mediterranean conference in Barcelona indicated the possibility to create a "free trade zone" by 2010. As it is known, this perspective of co-operation has given more satisfactory results on a cultural level than on an economic one. Nevertheless, this perspective remains strategic in order to achieve a continuous as well as essential dialogue among Mediterranean civilisations.
The role of the South Italy will emerge more and more clearly when the above mentioned "free trade zone" will be implemented, in particular through the creation of a "Mediterranean intermodal transport system", which could became the key driver for the development of Southern Europe.
On the other hand European policies remain on a Central Europe axis, and the transnational intermodal transport system, in its role as the supporting back-bone of the urban framework of the new Europe, does not seem to respond to a unified strategy of possible developments, but it tries to defend what is focused on the Berlin-London-Paris main route.

An Open «Cyberspace»

To measure the "self-propelling" power of *hard* infrastructures and *soft* networks when revitalising even difficult areas, it is sufficient to consider that they are growing exponentially given the close relationship between transport and economic development. However, the post-industrial era drives on incessantly: on the one hand towards even more diversified specializations, and on the other hand towards an increasingly inclusive interdisciplinary reintegration.
This dual development determines a continuous multiplication of the networks for the exchange and distribution of the flows of information, goods and people, providing a more and more extended and articulated connection of the "planetary city" where the priority focus of policies can no longer be regarding production, but rather consumption. The customer is driving the re-engineering of production processes towards policies of production and "just in time" delivery where logistics is a key element.
This globalization process is irreversible and tends to create an "*open cyberspace*", which is more dynamic, complex and interactive. Therefore, its overwhelming pervasiveness is one of the "cornerstones" by which to establish the process of regeneration and economic-territorial rebalancing of national urban framework.
But how will a Euro-Mediterranean transport policy be configured in such a system? Will it be able to articulate and regenerate the urban structure of the economies, reviving the economy of the cities?
In general, the infrastructure system tends to integrate the trans-European corridors passing through Italy, the "*motorways of the sea*" and the trans-oceanic routes that cross the Mediterranean calling at major ports on the southern shores (**Tangiers, Oran, Algiers, Tunis, Sfax, Alexandria, Damietta, Port Said**), those to the east (**Haifa, Beirut, Latakia, Smyrna**) and the north (**Piraeus, Trieste, Venice, Gioia Tauro, Naples, Genoa, Marseille - Fos**).
This intermodal system is linked to the Trans-European Corridor I, Berlin-Monaco-Verona-Naples-Bari (La Valletta), and will play the role of "backbone" system, because it will link the European cities to those of the Mediterranean:

- enhancing the connection of Sicily with the continent had already been planned, suitably decommitting the transhipment ports, in particular Gioia Tauro for the *containers* and potentially also a Sicilian port to be classified as "of major international importance" (Law 30/98). Paradoxically, this plan was interrupted "truncating" the Corridor in Naples and pushing on the Naples-Bari axis to connect La Valletta (Malta);
- crossing the two East-West corridors, the **Corridor VIII** – **Naples-Bari-Sofia-Varna** on the Black Sea, open to the markets of the Balkans, Greece and Ukraine; and the **Mediterranean Corridor - Lisbon-Madrid-Milan-Kiev** linking the Atlantic coast to Russia;
- the **railway Corridor**, currently in progress, **Paris-Warsaw-Moscow-Beijing** covered by Trans-Eurasia Express, will connect the English Channel to the Chinese Yellow Sea (the Euro-Asian economic bloc). Is this connection an alternative to the Euro-Mediterranean corridor?

Will **Corridor I** be able to form the backbone of a great Euro-Mediterranean intermodal system?

Connecting the Network and Accessibility to the Territories

Another key element is the connectivity of the networks in the logic of the major transport corridors to operate within the logic of the overall development.

The reduction of the accessibility of territories and of the connectivity of networks in a global process is one of the handicaps suffered by businesses, regarding both demand and offer.

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In these decades we are bring about the decline: we are now feeling it, but up to a few years ago it was only a quick way to indicate a forecast. The most worrying aspect in terms of mobility is the insufficient understanding of the phenomena.

To avoid these new dangers, we must react by recognising the damage of a "don't do" policy, i.e., of not having a vision of mobility and, consequently, of transport policy.

As a first approximation, we estimate in about 4 billion euro as the additional potential GDP we could have had available if only we had been able to maintain the same levels of accessibility as in 2000 (in any case already inadequate).

Losing accessibility results in fewer interchanges, lower sales and lower added value. It also implicates greater system inefficiencies that influence the surviving interchanges. This is a loss of GDP as well.

The same phenomenon, throughout the period 2001-2012 has registered a cumulative loss of GDP of 24 billion at current prices. Obviously, in these simple exercises we do not consider the general improvement of the production performance that would have been seen in response to the higher international competitiveness of our services, i.e. tourism and goods.

Indeed, the direct result is the cumulative evaluation of the additional GDP that Italy would have achieved over the period 2001-2012, if it had gradually taken effective action to bring the average accessibility to the levels of Germany; then, a total of 120 billion euro would have been recovered.

This analysis on territorial differences must also involve the transport system and logistics.

The *mobility divide* is represented by the differences in accessibility. Costs and transport time are totally different, when moving from the South of Italy to the North. The accessibility index calculated for Italy shows differences in a range from 8 to 1; this means that times and costs of transport, in the same conditions, can be even 8 times higher in some southern regions of Italy than in more accessible regions of the North.

The Smart City should not be Just a principle

The first idealization of the concept of "smart city" dates back to the beginning of the new millennium and is coined by William Mitchell, an America scholar who also coined the term "*e-topia*" to indicate the ideal city, a place that is able to make life easier and more attractive, by following five simple principles:

1. Dematerialszation, according to which, the digital development of the cities leads to a virtualization of many areas;
2. Demobilisation, according to which, the network allows a rethinking of the use of spaces and to change the travel needs, through the creation of multifunctional areas in our houses, at the workplace and for social life in general;
3. Mass customisation, so that the digital culture should not be an element of uniformity of behaviour but, on the contrary, should facilitate the development of individual creativity;
4. "Smart" functioning of urban spaces with interconnected buildings, in order to create a kind of urban nervous system, so that specific needs of the population can to be met automatically thanks to the interaction between people and objects.
5. A gradual transformation process, to allow the implementation of "*e-topia*" to have a positive effect on the quality of citizens' lives.

The smart city is an urban area managed by an effective policy, able to govern the territory, to better handle natural resources, to communicate with citizens through their different languages, to welcome them through an extensive network of services, to operate in a transparent and sustainable way through a participatory governance and a strategy consistent with the use of the most advanced technologies.

Therefore in the new scenario of urban development, a new generation of city is taking shape, the intelligence of which is measured by the evaluation of the requirements concerning efficiency, development and innovation in five main categories: **Connections, Human Capital, Culture, Creativity, Consumption.**

it is estimated that the process of transforming a metropolis requires an average investment of 3% of the GDP up to 2030; but the introduction of innovative technologies would allow advantages in efficiency, time and productivity, leading to an additional growth varying from 8-10% of GDP.

The Challenges of Urban Development

Most urban areas in Europe are facing a number of common issues, related not only to their physical expansion and population, but also to the environment and society. Traffic congestion, noise and air pollution, the urban overgrowth, as

well as social exclusion and road safety, are the challenges encountered on the path of a more sustainable urban development. Urban mobility is one of the most complex problems that cities must face and one of the sectors in which most nations are investing relevant amounts of money.
The ability to move easily within urban areas, quickly and with a low environmental impact, is considered a key factor for the quality of life in all modern metropolitan areas.
There are extensive ongoing works in many cities, since the current systems of urban mobility are considered inadequate to meet an ever-evolving demand. In addition, transport is responsible for 30.7% of the overall energy consumption in Europe, while in Italy the percentage rises to 33% mainly due to a high density of cars compared to the population.
It is estimated that by 2050, worldwide urban mobility will cost 830 billion Euro per year and it will use 17.3% of the Earth's bio-capacity, values which are 4-5 times higher than figures of twenty years ago.
Recently a study has been carried out in US to evaluate the mobility performance of 66 cities worldwide. From the analysis of eleven criteria, ranging from: the number of cars per capita, the average speed of trip, the carbon dioxide emissions of different means of transport, the existence of pedestrian and bicycle paths, the level of citizens' satisfaction in regard to the urban transport network, a score between zero to one hundred was given.
The result was an average score of 64.4 points world-wide, indicating that the sample cities registered only two-thirds of the performance that they could reach with a more efficient policy. Only 15% of the sample achieved a score above 75 points.

The Ranking of European Cities

Among the European cities that were analyzed, the highest score of 81.2, was for Amsterdam, followed by London with 78.5 points, while the cities with the lowest scores were Rome, 57.9 points and Athens, 53,3 points, compared to an overall average of 71 points.
Milan has a better situation than Rome, but is still well below the European average. The highest index of performance lies with the cities that registered a low percentage of daily trips made by car. In Amsterdam, only 27% of trips are made by a private car, and nearly half of them are done on foot or by bicycle. Similar percentages characterize other northern European cities, against the European average of around 40%.
On the contrary, in Rome 61% of the trips are carried out by car, only Athens has a higher score followed by Milan, which achieves a figure of around 55%.
Successful cities, such as Amsterdam and London, have found a balance between different ways of transport to discourage people from using the individual motorized transport. This has been possible through the strengthening of public transport, the implementation of advanced traffic management, the increase of private vehicles taxation and the introduction of road tolls.
In Europe journeys by public transport represent a share of about 39.4%, ranging from 24% in Rome to 54% in Oslo.
The problem of urban traffic severely affects the quality of life of Roman citizens, mainly caused by the limited extension of the metro system, which has only two lines. This shortage in Rome, compared to other European capitals, does not concern only the extension of the network, but also the inadequacy of the system to meet the considerable number of users, with the frequent phenomena of long waits and overcrowding, and as a consequent widespread use of private cars.
The city envisages important actions to upgrade the infrastructures for mobility, and some of them are already being implemented, with the target to double the underground network by 2020.
The city characterized by the highest number of subway lines is Paris, followed by Madrid, with two lines more than London. Whereas, the analysis of the extension of underground lines related to population, shows Stockholm to be the winner. Indeed, almost half of all trips there are made by public transport.
The subway system in Milan is barely competitive compared to other big cities, and the annual number of passengers is low, inferior to the that of than less populated cities. The gap is due to the poor efficiency of the public transport system, but also to the Italian mentality, particularly attached to the use of cars.
In Milan there are over 700,000 cars, which means that 55 cars are registered every 100 inhabitants, which is among the highest levels in Europe. However, people living in Milan use their cars for only 3% of their time, while leaving them parked for the remaining 97%. Parked cars occupy more than 3,000,000 square meters in the city.
In Italy, the urban mobility plans can be an effective tool to solve the above mentioned problems through an integrated political approach, based on principles of sustainability. The goal of these plans is to ensure that transport systems meet the wide range of social needs, at the same time minimising the negative impact on people, the environment and economy, and respecting the specific features of each urban area.
Besides the characteristics and goals of each case, all plans are linked by a long-term deadline, generally identified in 2020. Some cities have elaborated important examples of plans related to sustainable mobility whose effects will be

visible in ten or fifteen years.
An example of excellence is represented by Paris, which is distinguished by an efficient operational approach and a clear definition of the players involved, the actions and financial resources.
The plan sets five main goals, to be achieved in two stages, the first one by 2013 and the second one by 2020:

- Improve the quality of the air and in general reduce of the harmful impacts of transport.
- Guarantee to everybody the right of access to the city, with special care given to the vulnerable categories of people.
- Enhance the living conditions and safety of the spaces accessible to pedestrians, cyclists and passengers on public transport.
- Increase economic vitality and the development of the city through a more efficiency transport systems.
- Strength linkages between the city and wider territories, including the suburbs and surrounding towns.

In Milan, the new urban mobility plan for should be approved by 2015, with the aim of triggering a virtuous circle in the period after the Expo. Among the projects discussed, were the ring roads, the increase of investments dedicated to the metro-system; the upgrading of the rail system, the gradual pedestrianisation of the old city centre, the lowering of the speed limit in some areas, the reduction of the parking areas, the increase of cycle paths. To pursue these goals, however, in Milan there should be an improvement of the collaboration between the different levels of public institutions and between the public and private sectors.

The innovative aspect is Sustainability

Sustainability is uniquely considered the most innovative aspect, because the environmental impact and fears related to climate change and the progressive depletion of natural resources are considered a priority at all levels.
Recently there has been a worldwide survey on traffic congestion in several cities. Rome is the most congested city in Italy and the third in Europe, after Warsaw and Marseille.
The Italian capital has recorded a value of 34%, ten points higher than the European average and eight points higher than in Milan.
The city with less traffic is Amsterdam, followed by Copenhagen and Madrid. In these cities a high proportion of the population uses public transport or bicycle every day.
To reduce traffic and improve air quality, European cities are working to encourage the use of bicycles through strengthening bike paths, regulatory changes to protect cyclists, increasing taxes on cars and on the entrances to the city.
Nowadays, about 300 million bicycles are circulating in Europe, corresponding to one bicycle every 2.4 people. In countries such as the Netherlands and Denmark more than 30% of the population travels by bike, almost all roads have bike paths and even the secondary roads have parallel lanes for bicycles.
At the bottom of this ranking lies Athens, where bike lanes are almost non-existent. In Amsterdam, 40% of commuters go to work by bike: there are about 70,000 bikes circulating and there are huge parking lots that contain up to 10,000 bicycles.
Since theft is a problem even in the north European countries, a few years ago the city of Amsterdam has increased the fines for buying or selling bikes in the street and made sanctions against theft more severe.
Italian cities are backwards in respect of the main European cities and it is necessary to change the cultural attitude, as well as the rules regarding safety, since in the Italian mentality cycling is limited to leisure time. The sector is also considered as a priority in Milan, as the new mobility plan will extend the bike lanes from the current 70 to 300 kilometres in 2015 and 500 in the next decade.
The number and variety of sports facilities is another important competitive aspect of the cities, since the trend to practice a sport, both at amateur and professional level, is growing amongst the population. In the European Union it is estimated that about 18% of the population is enrolled in a sports centres against 10% in last decade.
Milan better equipped than the European average, counting on approximately 3,500 facilities, representing 26.2 facilities every 10,000 inhabitants, while in Rome the number of facilities is greater, but the ratio with the population is slightly below the European average. In Milan the football fields are dominant, as is the case in many other European cities, whereas in the north of Europe, facilities are mainly ice sports facilities.
Milan has made significant progress regarding sensitivity to environmental issues, recording an increase of 71.4% in recycled waste that currently covers 40% of municipal waste. Rome has also made significant progress, but still lags behind, as less than a quarter of the waste is recycled, while the cities that pay more attention to ecology are the Nordic capitals of Europe.
Amsterdam, Helsinki and Oslo lead the European ranking, having already reached 60% of recycled waste, while Copenhagen is settled at about 55%, thanks to an innovative plan, which sends to landfills only 3% of the total waste, thus reducing the harmful emissions and obtain a significant saving in energy.
The attention to ecological aspects in Copenhagen is confirmed by its designation as “the Greenest city in Europe” re-

cently obtained. The success key factor in Copenhagen has been the heavy investment in partnerships between public and private sectors that has allowed universities, companies and institutions to cooperate in the pursuit of common targets in terms of eco-innovation and sustainable employment.
The current trend for big cities is to focus on the sustainability of urban buildings, accounting for 40% of overall energy consumption in the world, much more than the transportation sector that consumes only 28%.
The only way to deal with the ongoing urban development is to building concentrated cities, with less suburban development, fewer roads and more public rail transport. In effect, the cities of the future will not be able to expand their limits on land and, therefore, will have to grow in height, in order to save resources, increase efficiency and, together, save energy consumption.
From this point of view the construction techniques are rapidly evolving, and soon a skyscraper will be able to become a self-sustaining ecosystem with rooftop gardens, trees on the staggered terraces, waste self-management, domestic waste incineration to produce heat, photovoltaic plants, etc.

The Italian Cities, backwards compared to Europe

The new society must be based on shared economic and ethical values and on a participatory democracy, paying attention to environmental aspects, being used to new rules and capable of using the technical innovations which are offered by science and engineering.
London is the most global metropolis, with a strong economic influence in Europe and throughout the world, characterized by a high degree of internationalization, skilled workforce, efficient urban planning, a wide and varied cultural offer, but also with attention to the vulnerable groups of population and to the environment.
Among the leading cities ranks Paris, which is one of the leading cities in all the concerned sectors, but an increasingly important role is played by the cities in northern Europe, which focus on technological innovation, attention to social problems, sharing of civic values and political choices and, above all, sustainability.
Italian cities are backwards in respect of European cities in terms of technology and, above all, environment, due to inadequate economic and social policies, but also to lack of organisation to affront the rapid changes imposed by the evolution of modern society.
Milan has recorded significant progress in nearly all sectors, undertaking numerous projects and pursuing the objectives with the right commitment. The main problems concern Rome, where there are several projects in hand, but which is struggling to implement the changes required.

A new intervention policy should start from the Cities

Currently, more than half of the world population lives in cities, and the first one hundred cities in the world generate 38% of the global GDP (Gross Domestic Product). Europe is the most urbanised continent in the world.
The progressive urbanisation of the planet and the rapid scientific and technological progress require a radical transformation of the organisation of urban spaces, with an ever greater attention given to sustainability.
We need cities that invest in human and social capital, in the participation processes, in education, in culture, in the infrastructure for the new communications and in many other areas:

a) inciting a sustainable economic development;
b) ensuring a high quality of life to all citizens;
c) foreseeing a responsible management of natural and social resources through a participatory governance. More and more the city assumes the role of driving force for economic development, attracting a growing share of population and concentrating economic activity, consumption and capital.

The most significant aspect of progress in the cities is the increasing attention given by individuals to the economic, cultural, and social opportunities than cities can offer.
Jacques Attali has effectively defined the city as “a living organism, a real heritage of innovative experiments”, specifying that it is not an independent body in respect of society, but rather the projection of the socio-economic structure and while it still has its contradictions and inequalities, it also has opportunities, wealth and socio-economic dynamism.
If the traditional city represented a space delimited by precise borders and occupied by a well-defined population, since the twentieth century this identification has been substituted with a less precise entity that is more flexible, characterized by increased population movements, activities and services and more flexible production patterns.
In this scenario, planning programmes designed to create single-purpose areas have been replaced by urban projects based on product differentiation, overlapping of uses, the reutilisation, rehabilitation and transformation of entire areas of the urban fabric.
The role of creative cities is to become the engine of sustainable development, by investing in diversified sectors and integrating the dominion of public goods with that of private capitals. The development of the city will no longer be based on only public spending, but on a collaboration between

public and private sectors, with a new social pact.
The radical changes in the role and structure of cities are driven by the rapid evolution of digital culture. The metropolis are turning into a kind of platform, designed to facilitate the connection between people, to encourage the creation of innovative initiatives, to attract talents and capitals, to meet the criteria of sustainability, to encourage collaborative behaviour.

What is the role of our companies

In euro-Mediterranean areas, due the current dynamics of world trade, it is not enough to have a favourable geographical position, nor the product quality to attract and develop good trade flows. This natural asset should be supported by careful business policies.
In this scenario the difficulties of our companies to be competitive, also in logistical terms, are caused by lack of public logistics, with the result that they cannot:

- trace the goods to their destination since there is still ex-works selling (updating of National Logistics Plan 2012-2020, July 2012)
- reduce the supply chain from production to distribution of the products to be exported; and assemble the semi-finished products to arrive at the final product for the export market.
- abbreviate the excess of mediation, managing the difficulty in creating a system on the logistical transport level.

In recent years in Italy, the demand for services such as Single-Window Customs, real transport services and logistic companies, analysis of the rules of international markets, etc. has led Italy to fall back on foreign operators.
On the Italian market, with varying degrees of difficulty for the various regions and for the supply chains mainly export-oriented, most shippers and couriers rely on foreign companies in order to reach their target markets.
There are two kinds of barriers to entry in these markets:

1) Due to the logistics-transport system, export companies tend not to be oriented towards "carriage pre-paid";
2) Operators' lack of understanding procedures and regulations due to the shortage of opportune assessments of new markets such as Eastern Europe, the Balkans, Africa, the Mediterranean.

Business behaviour has been identified and analyzed through an examination and assessment developed in the National Plan of Logistics and the research carried out by the Central Committee of Road Transport of the Italian Ministry of Infrastructure and Transport.
Information relating to the internationalisation process has been analyzed in a research focused on some traffic relations in the Mediterranean areas. - The international opening to the Italian regions, research prepared by the Research Department (SRM), year 2013 -
The strengths and weaknesses of the domestic companies are found both on the demand and the supply sides. Indeed, in both cases, the results found a "dwarfism" on the dimensional level (weakness), and a great capacity to reach markets (strengths).

The "Single Window Customs Service" towards collaborative behaviour

In world trade dynamics as we have already mentioned it is not enough to have a favourable geographical position and product quality to attract and develop trade flows. The first supporting procedure is to create a cycle focused on the activities of transport and logistics, increasingly important in order to reach markets.
Inefficiencies attributable to such activities cause a dilation of transfer times especially in port and airport and produce additional costs for Italian companies importing and exporting, with considerable waste of economic resources and loss of competitiveness compared to other European companies.
This situation leads many logistic and commercial companies to relocate part of their operations in other EU countries which are better organized.
The phenomena of traffic diversion to other EU Member States (Northern Europe and neighbouring countries such as Slovenia) would represent, according to some estimates, about 30% of the total traffic originated and destined to national consumer basin, causing a loss of positioning and obviously of importance in the international geo-economic context.
The situation can be corrected through a series of coordinated measures regarding the activities of assisting companies.
Companies must be guided in an institutional collaborative framework (win-win logic), reducing "down" times of bureaucracy to facilitate trade flows with foreign countries, with obvious advantages not only for the companies involved in the specific activities (e.g. shipper operators), but also for the whole production system.
Therefore this is an environment that allows, through a single access (Single Window Customs) to achieve different goals, with many advantages:

- reduction of bureaucratic delays and documentary mistakes;
- better use of human and financial resources which are at the disposal of private and public administration;
- possibility of more selective and precise controls (risk management) by company administrations;

- reduction of non-tariff barriers, that are not always quantifiable, but existing and due to organizational frictions.

Other critical issues to be overcome for competitive Logistics

In order to better analyse the phenomena that create problems and cause loss of competitiveness of Italian companies operating in international markets, both for demand and supply of logistics, a special Focus Group was organized. Below is a summary its main results. Substantially, the following issues emerged:

1. Poor spread of "Logistic Culture" and lack of skilled resources

The shortage of adequately skilled human resources prevents many companies to practically exploit the full potential that modern logistics and a proper handling of goods offer.

Furthermore, the poor "widespread culture", especially among the SMEs, determines that logistics is seen as a cost or, at the most, as a service to the customer rather than as an important resource for competitive advantage for companies.

Italy also lacks in institutional training paths: unlike France, Germany and England where logistics is already a topic in high schools. Only recently in Italy some schools have been experimenting a training course for "Perito Industriale in Logistica e Trasporti" (Industrial Operator in Logistics and Transports).

2. Low spread of Logistics outsourcing

Although Italy is today the fourth largest European logistics market, the use of outsourcing of logistics is relatively rare compared to the rest of Europe. In some regions, especially in the South, this policy is almost residual.

The majority of Italian companies manifest a low propensity in logistics outsourcing, for reasons related to both organizational factors (mainly small and medium companies that express a demand for logistics led by the "cost factor", which is very fragmented and personalized) and due to cultural reasons.

For example the immaturity of the services market, characterized by a high fragmentation of the companies providing logistics services whose scope is often limited to certain regional areas and which have no incentive either for aggregation or increasing in size.

The demand for outsourcing focuses mainly on basic services (drive, warehouse space rent, distribution, etc.), and is rather low for more complex services (order processing, auxiliary works, etc.).

Only in few sectors is there a spread of organizational models that have enabled the outsourcing of all the activities of cargo handling, both incoming and outgoing, which are currently limited to the automotive sector, clothing and consumer goods.

On the other hand, even in these areas, outsourcing collides with the absence of operators who have a national coverage, with high specialization.

3. Poor diffusion and standardization of IT and Telecommunication Systems for Logistics

In many manufacturing and commercial SMEs (Small-Medium Enterprises), planning activities in manufacturing and logistics, warehouse management, inventory and transportation management are not adequately supported by advanced computer systems.

Similarly, the transport and logistics companies show considerable resistance in investment for Information Technology, a prerequisite for the development of logistics outsourcing and advanced value-added services.

The reason is that the "cost" factor is still predominant in respect to the "quality of service". In other words, the market does not recognize its value.

In addition, the low level of computerisation of infrastructures and transportation hubs, as well as the poor diffusion of computerised procedures within port and airport customs causes delays in operations and, frequently, determines the choice to embank/disembark goods abroad (containers diverted to ports of the Northern Europe, freight truck flows towards the hub of Frankfurt).

In some cases, the absence of a national data transmission network and of a platform for the traceability if goods from some critical supply chains, causes the inefficiencies in the national transport system and also the lack of control over high-risk shipments for the community, such as the case of dangerous goods. The same can be considered as regards to data transmission support for the initiatives of city logistics.

4. Dissemination of "Ex-Works" Clause

A large part of the productive sectors that represent the demand for logistics services, especially manufacturing SMEs, has not recognized the need to express a strong control over the flow of materials and information, nor has regarded the efficiency of logistics processes as a specific resource for competitive advantage.

The reasons for this backwardness regarding logistics and transport in Italy depend largely on the demand, i.e., from the habit of companies, in particular SMEs, to neglects the organization of transport for embark/disembark, thus selling goods according to the "ex-works" clause and similarly, purchasing goods with "prepaid charges".

This implies that imports and exports of Italy are managed *extra moenia* by the logistics operators of our major trading

partners, such as France and Germany, which not surprisingly have acquired our logistics companies in the last 10 years. The logistics operators, on the other hand, continue to recede in the rates of foreign exchange trade for three reasons: the two factors that hamper crossing passes (transit costs and waiting time), the higher cost of local road transport compared to the cost of road Transport in Eastern Europe.
The final result of low competitiveness in businesses related to the national logistics system is that Italy, with its high export predisposition, buys more and more transport services from foreign companies.

5. Failure of optimisation among the players of extended Supply Chain

In recent years and in the near future, alongside the integration of the supply chain, we will continue to talk about "collaboration" among companies and among companies systems.
Until now, a "locking" approach of companies towards their business partners has always prevailed (suppliers, customers, contractors, etc.), with great difficulty in the exchange of information among relevant players in the same sector (manufacturing and distribution companies, logistics operators and carriers).
Only in a few advanced sectors, such as pharmaceuticals and automotive, has there been a sharing of information for a long time, which is essential for the logistics process, such as the delivery programme, production planning, promotional plans, etc.
In this way all the players share benefits in terms of reducing costs of emergency stocks, transport costs and inventory costs, according to the logic of the network economies.
In the consumer goods sector, on the other hand, despite the launch of the project ECR (Efficient Consumer Response) starting from the nineties, when there were distributors and manufacturers involved, in looking for mutual efficiencies along the logistics chain, less than 5% of the activity volumes has been managed from a collaborative point of view .

High incidence of downtime in Transportation

In Campania, a region of Italy, little attention has always been given to the problems related to the downtime in transport cycle, particularly in regards to waiting time for loading and unloading of vehicles.
The lack of cooperation and coordination between logistic players and commercial companies generates important repercussions on the parking times of vehicles and causes continuous friction regarding the high interface costs (for example for pallets management interchange); in that way the application of the Law 127/2010 could give good results.
These inefficiencies generate costs that could better be defined as waste, involving the entire logistics chain, shippers, carriers, consignees and the entire national economy.
The phenomena is particularly striking in the case of large retail distribution centres, in the field of consumer goods where it takes, on average, 3 hours waiting time. Time is a very precious resource: optimizing the use of time means making the whole supply chain more efficient, it reduces the logistic cost associated with the goods and reduces the external costs generated by transport. There are already some good results from some provisions contained in the Law 127/2010.
The focus on the emerging problems of the sectors permits the identification of the "virtuous path" that public action should take in order to remove such problems, that are essentially related to the following areas:

- promoting the adoption of **winning logistics models for specific sectors** through the training of industry committees or promotion agencies for the diffusion of *best practices*;
- **incentives to logistics outsourcing**, not only in the distribution phase but also for the supply of raw materials and/or semi-finished products, by spreading the practice of third parties also for deliveries in urban areas;
- developing **professional training** and research applied to the logistics and transport sectors;
- encouraging the development of **standards for the exchange of information and goods** and enabling a national data transmission network to support logistics and transports;
- reducing inefficiencies in transport stages of **loading/unloading,** spreading the practice of "scheduling" (or, introducing a logic of pricing based on "transport cycle time") and improving the organizational efficiency of logistics hubs for modal interchange (Law 127/2010);
- **simplifying procedures and bureaucracy** that reduce the competitiveness of companies operating in Italy and that slow down, and even exclude, foreign investment;
- **improving** area accessibility and network connectivity
- **initiating** training programmes integrating territories, transportation, logistics.

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