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A hypothesis of the World Trade Centre in Gioia Tauro as an opportunity of an interdisciplinary study

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Abstract:
«A building that generates regeneration […] The WTC is not only real, but it is something symbolic: it respects the thought of globally thinking and locally acting […].The concept is that the WTC should be a multipurpose building: hotel, office, residence […] a flexible building that can house any function anywhere... a new experimental idea» (Foster, Modulo.Net)
This paper introduces part of an interdisciplinary research in which different skills and knowledge may contribute, through the examination of specific issues, to give reason and substance to the realization of a complex system such as that of the WTC, at Gioia Tauro. In particular, the work submitted focuses mainly on *environmental sustainability and technological-constructive and dimensioning aspects*.

ERC Keywords
PE8-9: Materials engineering
PE8-12: Sustainable design
SH3-1: Environment, resources and sustainability
SH1-7: Competitiveness, innovation research and development

Introduction (M. T. Lucarelli)

The possibility to build an intermodal and logistics hub in Gioia Tauro[1] - an important Calabrian port area born in the 70s in support of the 5th, never in action, Iron and Steel Centre and converted in the 90s in a multipurpose commercial port - was an opportunity to start a preliminary study aimed at the creation of a *World Trade Centre* – WTC. It is a building complex, used with commercial and economic functions related to the port, with features that can be included in the international network of the same name, currently consisting of 92 countries, 331 WTC and over 750,000 companies involved. The goal was and is to revive the economy of the port structure, whose decline has been evident in recent years[2] but also to create a regional network that can promote enterprises in the Region and abroad, which are interested in creating a *business community* as well as promote its economy internationalization.
This study - funded by the POR Calabria 2007-2011, Line of intervention 7.1.2.1. – is characterized by an interdisciplinary research[3] in which different skills and knowledge may contribute, through the examination of specific issues, to give reason and substance to the realization of a complex system such as that of the WTC, whose possible implementation needed to be checked according to the follow terms. *Localization*, in relation to the urban-environmental aspects. F*unctions* to be distributed and *services* to be performed, thus considering

the necessary spaces and the volumes as well as the necessary infrastructure, including those ones for accessibility. *Design*, defining criteria of architectural and landscape value in compliance with the quality and sustainability requirements expected for membership of the *World Trade Centre Association* – WTCA[4]. C*osts* for both the realization and the management of the system, supposing the effects and benefits in economic-social terms for the territory, in general, for the involved companies, in particular.
Beyond endogenous phenomena that, over the years, have strongly influenced the development of the port area and the industrial site, this study highlights some critical elements connected, in particular, with the port position that requires greater integration with the rest of the region through a suitable infrastructure. Moreover, with the current vocation of the port that is to be converted from the role of transhipment to an intermodal system, thus becoming an international pole of attraction as well.
Since the late 90s, thanks to its potentialities, Gioia Tauro has been a port area of great interest and vitality in the Mediterranean area, and has had a strengthening in the presence of the World Trade Centre, which may be a catalyst of some different interests aimed at consolidation of economic and commercial activities and revitalization of the port area.
Then starting from the consideration that the realization of a WTC is not possible without an integrated interdisciplinary study and, therefore, without a complex systematization of the information derived from the investigation conducted by the individual working groups, this paper focus mainly on *environmental sustainability and technological-constructive and dimensioning aspects*. The goal is to direct possible technical-design choices and pinpoint functions to be delivered and services to be performed by referring also to the protocols of the WTCA and to similar structures built in Italy and abroad.

A WTC in Gioia Tauro: for a hypothesis of dimensioning (M. Azzalin)
The idea around a *World Trade Centre* - WTC is to build a "*multifunctional building*" able to perform a function of the economic, productive and cultural valorisation of the environment in which it is built, becoming an attractive pole of investments and a place of exchange and relationship. At the same time, the realization of a WTC is also an important project opportunity to test and meet – through a technological innovation – requirements of environmental energy and sustainability compatibility of the building, "*the heart of the system*": from the design, construction phase to the management one and to end of life.
Therefore, a WTC is designed both as a container of functions and relations and as an architectural volume bearer of specificity and uniqueness of its territory, an expression of cultural heritage and local environments to be promoted as values, but also, to redefine and express in a contemporary way at the design phase.
Many WTC realized in the world, well 331, are characterized by being equipped areas for offices and service and relationship activities among international operators, usually placed near the large "*exchange infrastructure*": international airports, major railway or highways junctions, important seaports, like the case of Gioia Tauro. Which become, in turn, for ability to network and promote a new culture of territorial Marketing, an important element for the promotion and support of a not only locally economic development.
A central aspect in a localization policy of a WTC is, therefore, a watchful awareness of all economic, productive, social, cultural and scientific subjects of the territory, in order to understand the benefits that may accrue for the territory from that localization.
In the specific case of the study from which this article is taken, the strategies outlined by the Regional Environmental Program – QTR aim, as their general objective, at strengthening interconnections and the internal and external accessibility; elevating the provision of urban services and improving the urban and environmental quality of settlements.
The study with reference to the socio-economic and urban-environmental analysis has made clear, albeit at a preliminary stage, that a WTC would implement the general fixed objectives and constitute a new and primary source of income, becoming a catalyst element for the local economy and a great opportunity for small and medium-sized enterprises. Moreover, it would represent, at the same time, an important opportunity for a collaboration between territory, production sector and scientific world, in terms of an interdisciplinary perspective, study and especially experimentation.
Therefore, there have been analysed, preliminary conditions of the available areas starting from the guarantees as the potentialities that this area offers characterized by a partly already recognized appeal, through the activities of international transhipment of the port of Gioia Tauro, but with also a large margin of still unused potentiality. There have been analysed the compliance of the areas identified for the localization of the WTC, according to the requirements of *World Trade Centre Association* - WTCA, that has to take the final decision to assign the label WTC. The study with reference to the part here presented hypothesized a distribution and a dimensioning of volumes and spaces to be realized also assuming some fundamental criteria connected with technological-constructive sustainability.

The hypothesis of dimensioning of the WTC, adequate both to the real current and potential demand as well as to available financial resources, turned out strategic also according to the aims to foster relations of integration and exchange among the Port, the settled companies and the inhabitants of the "*Piana*" areas, and to promote synergy and relationships with the territory. This, including, as indicated by the same WTCA in addition to the indispensable commercial and office spaces, also more general services, such as cultural, leisure, personal services, etc .., that the territory currently does not offer.
From an analysis of the requirements set by the WTCA, the functions and activities to be included in a World Trade Centre have been grouped into two main types:

- basic functions: those essential functions that a WTC needs to provide, in particular, for businesses, such as commercial spaces, offices, direction, etc;
- integrative functions: those functions that are not essential but strategic in a point of view of a development and a greater integration with the territory, such as cultural activities, hospitality, entertainment, etc.

With a specific regard to the dimensions of spaces and necessary volumes, it is necessary to take into account, that there are no dimensional standards of reference to be assigned - as a range of values in square or cubic meters - to functions that need to be accommodated in a WTC. Nor there is a category predetermined or an optimal ratio between enclosed spaces/open spaces, etc[5].
In particular, the study allowed us to define an area for "*basic functions*" changeable between the 70-90% of the total area. These areas are intended for entertainment activities, boardroom and offices, for commercial and exchange business, sales activities, goods reception and storage (warehouse), but also possible activities linked to production, such as laboratories.
With reference to the spaces defined "*common area*", intended for "*integrative functions*" they vary from 10 to 30% of the total area, with possibility to be increased where development strategies, local policies and availability of the area permits it. Particularly, this "*common area*" includes, in addition to common base services, green, traffic and parking space, along with a number of highly diversified activities such as galleries, fitness and wellness centres, conference rooms, hotels, libraries, etc.
That said, in having to define a preliminary dimensioning that ensures all the expected basic functions, it seemed useful, as already said, to refer to WTC realized in Italy and abroad, with particular attention to comparable dimensioning situations with ours by comparing, where available, data for location and dimensioning of spaces for different activities. It is the case of the WTC in San Marino, Brescia, Trieste, Adige city (Verona), Cagliari, Genoa.
Therefore, based on studies and analysis conducted in relation to example of WTC and to socio-economic aspects of companies operating in the area, exporting companies and potential ones (ASIA, 2012)[6]; present and potential foreign partners and in particular to the possible development prospects[7], it would be possible to hypothesize a preliminary dimensioning for the WTC of Gioia Tauro. Step surely strategic also with reference to a following quantification and check of necessary and available financial resources.
The starting hypothesis is to look at the WTC of Gioia Tauro, also according to the local social and economic context, as a "*flexible building*". The idea of a "*building in the making*" appears both as a requirement and both as a wish to test flexible and dynamic spaces, which would be able to change themselves depending on the particular programmed event: for example, a conference instead of an exhibition. Also, moreover depending on demand for a new distribution of the spaces for the so called "*basic activities*": offices bigger or smaller, new boardrooms, open spaces. An idea for a flexible space based on an open space configuration that becomes also a challenge for structural experimentation, dutiful, especially in this geographical area, of the regulations for construction in earthquake belt; as well as a chance for testing new building materials, techniques and technologies able to guarantee this flexibility. Moreover, an opportunity di try out new design and life cycle management approach through the several capability of *BIM - Building Information Modelling*.
From consideration taken and available information about enterprises, the proposal assumes as start value of dimensioning of the spaces of WTC in Gioia Tauro, an average value of cc. 60,000 square meters (Tab. 1.).
Taking into account for the "*basic functions*" the data of total local and non-local enterprises, operating and/or that can be involved, as resulting from the conducted socioeconomic study (look at note 6). Referring, moreover, for the dimensioning of office space to available data relating to the WTC in Lugano, about which there were data on measurements in metres for different type of offices. (Tab. 2.)
Parallel for the distribution and dimensioning of spaces for the "*integrative functions*" the proposal took into account cultural, leisure and personal services, etc that the territory does not currently offered, paying attention also to criteria of hospitality and image that a WTC must ensure as suggested by WTCA. (Tab. 3.)
According to the character and goal of the study, the supposed dimensioning - as well as the distribution of the areas between the various activities – is surely intended as a simple illustration, postponing the final verification of the distribution and spatial articulation of the above-mentioned surfaces to a subsequent design phase. For which it is desirable adopting solutions able not only of cutting down on energy, but also guarantying

the adherence to the general criteria of environmental sustainability, as better said in the following paragraph.

Tabella 1

Ipotesi di dimensionamento degli spazi per il WTC di Gioia Tauro

Superficie per "funzioni di base" del WTC	**40.000 mq**
- Uffici permanenti - Uffici virtuali con call center 24 ore multilingue - Servizi di Segreteria e di Interpretariato legale - Servizi di informazioni economiche, tecnico- commerciali e di ricerche di mercato. - Servizi di assistenza per l'investimento all'estero e l'esportazione. - Servizi finanziari, legali, assicurativi e bancari - Assistenza turistica e culturale - Uffici temporanei	
Superficie per "funzioni integrative"	**18.000 mq**
- Spazi per Congressi, Fiere, Formazione e Meeting Internazionali - Centri culturali, Associazioni, Fondazioni e Club - Luoghi di intrattenimento e benessere - Spazi riservati per le relazioni - Ristoranti - Luoghi per pernottamenti o brevi soggiorni - Spazi espositivi fisici e virtuali - Vetrine e occasioni di shopping - Servizi comuni, verde	
Superficie totale ipotizzabile	**60.000 mq**

Tab. 1. Hypothesis of dimensioning of the spaces of WTC in Gioia Tauro

Tabella 2

Funzioni di base: Ipotesi di dimensionamento in relazione ai dati delle imprese locali, dedotti dai risultati dello studio socio-economico

ELENCO FUNZIONI DI BASE PREVISTE IN UN WTC		DATI IMPRESE LOCALI GRUPPO DI LAVORO: FATTIBILITÀ ECONOMICO-SOCIALE	
	Superficie per "funzioni di base" del WTC: **0-35%+3%**	IMPRESE OPERANTI 2/&&!#'/#0 Presenti: 86 Attualmente operanti: 36 IMPRESE ESPORTATRICI Attualmente operanti 915 Possibile coinvolgimento 5%: 45 IMPRESE ESPORTATRICI POTENZIALI 1315 Possibile coinvolgimento 2%: 30 PARTNER STRANIERI: Presenti: 30 Potenziali: 9	**Superficie per "funzioni di base" del WTC:** **TOTALE mq: 40.000 mq cc**
	Uffici permanenti per i soggetti e le aziende costantemente coinvolte nelle funzioni ospitate	**12.000 mq cc** **15.000 mq cc** **7000 mq cc** Imprese Locali: uffici di metratura compresa tra 50 e 380 mq Partner stranieri: uffici di 200mq cc per ciascun operatore Tutti gli uffici sono dotati di tutte le infrastrutture tecniche e di telecomunicazione d'avanguardia. (Dati tratti da WTC Lugano)	**34.000 mq cc**
	Uffici virtuali con call center 24 ore multilingue Servizi di Segreteria e di Interpretariato legale Servizi di informazioni economiche, commerciali e di ricerche di mercato. Servizi di assistenza per l'investimento all'estero e l'esportazione Servizi finanziari, legali, assicurativi e bancari con esperti di settore. Assistenza turistica e culturale	**3000 mq cc** Uffici di metratura compresa tra 18 e 380 mq dotati di tutte le infrastrutture tecniche e di telecomunicazioni d'avanguardia. (Dati tratti da WTC Lugano)	**3.000 mq cc**
	Uffici temporanei, forniti ad aziende, imprenditori e professionisti	**3000 mq cc** Uffici di metratura compresa tra 18 e 380 mq dotati di tutte le infrastrutture tecniche e di telecomunicazioni d'avanguardia. (Dati tratti da WTC Lugano)	**3.000 mq cc**

Tab. 2. Basic Functions. Hypothesis of dimensioning referred to data relating to local enterprises as resulting from the conducted socioeconomic study.

Tabella 3

Funzioni integrative. Ipotesi di dimensionamento riferiti ai servizi non presenti sul territorio e alla rispondenza ai criteri di ospitalità e immagine suggeriti dalla WTCA

ELENCO FUNZIONI INTEGRATIVE PREVISTE IN UN WTC	**Superficie per "funzioni integrative" del WTC: 0-35%+3%**	**TOTALE mq 18000 mq cc**
	Spazi per Congressi, Fiere, Formazione e Meeting Internazionali Centri culturali, Associazioni, Fondazioni e Club Luoghi di intrattenimento e benessere Spazi riservati per le relazioni	10.000 mq cc
	Ristoranti Luoghi per pernottamenti o brevi soggiorni	2000 mq cc
	Spazi espositivi fisici e virtuali Vetrine e occasioni di shopping	1000 mq cc
	Collegamenti, servizi comuni, verde	5000 mq cc

Tab. 3. Integrative Functions. Hypothesis of dimensioning referred to services that the territory does not currently offered and to criteria of hospitality and image suggested by WTCA

The WTC in Gioia Tauro: possible technological-constructive criteria (M. Mandaglio)

The WTC, as mentioned before, is not only a physical place, but also a space where a strong symbolic value is recognized. It represents, as Norman Foster said, "*the thinking to think globally and act locally*" (Foster, Modulo.Net), but also a new, experimental and design idea, especially in relation to technical-constructive and compositional aspects. That is to realize a flexible building able to "*accommodate at any point whatever function*" and to "*meet, environment and energy compatibility requirements, through technological innovation*" (Foster, Modulo.Net).

In this latter context, the "*certified*" buildings use, certainly, the key resources, in a more efficient way, compared to conventional buildings, which are simply built according to the rules of civil construction.

The benefits range from improved air and water quality to the reducing of solid waste.

They make a living and healthier work environment, which contributes to a greater productivity and an improvement of the health and comfort of the employees; providing benefits to both owners and occupants, and to the company as a whole. This aspect coincides with the criteria necessary to evaluate the appropriateness of the building to get the brand WTC.

Accordingly, the application of the principles of sustainable construction often involve an increase in the initial costs of the project and construction, for different reasons, and it is often also required time to invest in research. However, these higher initial costs can be effectively mitigated by the savings that are achieved over time, through lower operating costs compared to the standard ones, typical of the certified buildings.

More economic profits may occur due to the increase of productivity of employees who are working in a healthier environment.

The whole "*building*" should be thought as a "*bioclimatic machine*", which overcomes the simplistic theme linked to the project of the only housing, giving prominence to the concept of ecological settlement unit. This is in a strong relationship with the context, seen as a system of resources with which to relate.

The proposed settlement model is based on the exploitation of "*environmental benefits*" of the site, these elements become decisive factors of the settlement system, a building that did not come from criteria or preconceived assumptions, but it evolves through subsequent adjustments, producing complexity at a functional differentiation.

The main objective of this analysis phase has been to define the design criteria to be adopted in order to ensure the best conditions for sustainability of the project in relation to the following aspects:

- solutions to be adopted in order to ensure high levels of energy conservation;
- the choice of construction techniques, capable of promoting the maximum flexibility in the use of space, depending on the possible varying demand;
- the criteria to be taken in the choice of materials and technical solutions, in order to ensure cost-effectiveness and durability;
- the criteria able to assure a maximum environmental comfort, both in interior and exterior spaces.

Based on the defined objectives and, in relation to the overall purpose of the study, it is useful - in order to promote integrated practices of design for the entire building – to define possible criteria for operating in line with the principles of sustainability and green building. In particular, they have to:

- meet the specific needs of multi-functionality dictated by entry into the World Trade Centre Association;
- allow – at the same time- the possible subsequent certification and qualification of the complex as a "*Green Building*".

The theoretical-operative structure of the proposed process stems from a critical assessment of the new requirements expressed by the established environmental quality standards and the increased needs of users. In addition, there are some instructions reported in the new regional regulations about energy conservation to encourage and guide towards the use of best practices.

The purpose of this procedure is to determine possible technical-design actions, as well as the set of possible technological choices and of the technical elements, taken into account during the design phase. Choices that will have to consider of course: the data of the place condition, especially those derived from preliminary investigations, aimed at identifying aspects of the context considered in its social, economic, environmental, technical expressions, and a critical reading of the data relating to the instrument of "*Complex Programs*".

There are four essential steps of the entire process: defining Needs; transferring them in the connected Requirements; pointing and defining possible options of technical-planning Actions; identifying a Repertoire of possible types of technical-planning intervention.

The definition of the "*Need*s" detects three areas of criticality:

- control of the incidence and intensity of human and artificial activities on the resources cycle;
- energy saving and control of greenhouse gas emissions;
- healthful and spacious comfort.

To which the definition of its connected "*Requirements*" refers:
- identification, control and accounting of the cycles;
- improvement of the thermo-physical performance of the environmental units and of the technical elements;
- control of Indoor Air Quality.

Afterwards, "*Actions*" define another level of experimentation and deal with:
- evaluation of embodied energy of materials;
- application of integrated systems at a high – efficient energy;
- use of materials with zero emissivity.

The identification of the "*Types of Intervention*" is the last step of the theoretical and operational process that derives from a combination between the different steps "*Needs-Requirements-Actions*".
With reference to the choice of materials and technical solutions and to the choice of the most appropriate construction techniques we should consider in general terms:
- the use of construction materials ecologically compatible according to criteria of recyclability, origin from renewable sources, controlled energy consumption during production, distribution and disposal.
- the identification of the main materials and construction methods used in green building: natural materials established in the tradition: "*to build according to nature*" and/or at a local level, but also use of recycled materials.

In defining the materials and products to be used in addition to favour those ones - whose production takes place close to the installation site, and provides for compliance with all applicable regulations concerning the manufacture - we should consider the need that the above-mentioned materials and products meet the requirements of environmental sustainability and eco-compatibility.
In this regard and for the respective certifications of energy and environmental sustainability, some reference points are:
- regulations on the eco-compatibility of the production processes (ISO 14000) or on environmental protection (EMAS) or on ecological safety (Eco label);
- brands and certifications assigned to bio-ecological and construction materials and products, in accordance with product sheets and self-regulatory codes, issued by associations supported by the data collected by measurement and chemical-physical analysis laboratories.

Synthetically, the sustainability of a material is defined in relation to reduce the environmental impact to a minimum, in relation to the whole cycle of its life.
The complexity and great articulation of the productive sector make difficult assess ecological quality of building materials and consequently a correct environmental balance sheet.
As we have briefly introduced before, the drafting proposal is useful for the attainment of the objectives set, based on current knowledge, a kind of handbook that can direct the selection of materials to be used, with reference to three main indicative aspects: ecological and biological aspects, influence of construction materials on the quality of living.
In defining the construction techniques to be used for the works in green building, in compliance with all applicable regulations in the field of public works and all the rules of good practice of building constructions, we have also to consider the need to meet some environmental sustainability aspects.
In this regard and for the respective certifications of energy and environmental sustainability, some reference points are:
- the standards LEED developed by USGBC also present in Italy thanks to the work of GBC ITALY, which has created a local version of it. They may indicate the requirements to build environmentally sustainable buildings, both from the energetic point of view and from the point of view of the consumption of all environmental resources involved in the process of realization;
- the standards BREEAM – *British Research Establishment Environmental Assessment Method*. The BREEAM is the first and most well-known method for the "*ecological*" certification of buildings; it is able to evaluate the environmental responsibility of the buildings realized by providing a rating of "*environmental suitability*" in relation to both the impact on the ecosystem, on the microclimate, on the immediate context and the indoor air quality and safety. The ultimate goal is to increase the eco-friendly building techniques and the awareness of the designers concerning environmental responsibilities.

Conclusions

The new projects of local action able to offer a decisive contribution in terms of improving the sustainability of the settlement system, like a WTC, should be seen as instruments up to carry out proactive contents of a strategic vision. Then, they must be able to apply in practice the shared strategies, dealing with the efficiency of an executive implementation: technical feasibility, cost-effectiveness, social practicability.
It is evident, therefore, that the effectiveness of Action Programs, in relation to the objectives of sustainability, not only depends on their propositional ability, in terms of functional purposes, organization of space and its formal configuration, but it is strongly linked to their ability to make synergy with the context and contribute operatively within the system strategies.

Notes

1. The Agreement Framework for the creation of an intermodal and logistics hub in Gioia Tauro was signed in 2010 among several Ministries - Economic Development, Infrastructure and Transport, University and Scientific Research - and the Region of Calabria, the ASI Consortium of Reggio Calabria and the Port Authority of Gioia Tauro and the Italian Railway Network (RTF).

2. Starting from the 2000s, both as a result of competition with other ports in the Mediterranean area – that in the meantime had begun a policy of a more advanced intermodality - and for the severe constraints linked to the presence of organized crime, this port area started its slow decline. The massive anti-mafia activities and a territory policy, aimed at the recovery of the port potentialities, indicate a recovery in the short term.

3. Starting The study “Project feasibility for the World Trade Center of the intermodal and logistics hub of Gioia Tauro”, coordinated by Prof. G. Fera, as a scientific director, and Prof. Marina Arena saw interacting different working groups, mainly connected to the Architecture and Territory Department - dArTe of the *Mediterranean* University of Reggio Calabria, with diversified skills:
- For the economic and social feasibility: Prof. Massimo Finocchiaro (resp.), Arch. Rosa Grazia De Paoli.

- For urban and environmental feasibility: Prof. Francesca Moraci (resp.), Prof. Alessandra Barresi, Prof. Mariella Ferrara, Prof. Gabriella Pultrone, Arch. Celestina Fazia, Arch. Franco Morabito.

- For the technical and construction feasibility: Prof. Maria Teresa Lucarelli (resp.), Arch. Maria Azzalin, Arch. Mariateresa Mandaglio

- For the landscape feasibility: Prof. Laura Thermes (resp.), Prof. Ottavio Amaro, Prof. Marina Tornatora, Arch. Giovanna Falzone, Arch. Fabrizio Ciappina, Arch. Gaetano Scarcella

4. The WTCA is a World Association, apolitical and non-profit, based in New York, bringing together 297 seats in 90 foreign countries, called WTC - World Trade Centre, operating in buildings located in major industrial cities in the world, from Barcelona to Lausanne, from Cairo to Mexico City or to Bucharest. Fifteen only in China. Thirteen only in France. Entirely at the service of the operators - importers, exporters, service providers - which are intended to promote international trade.

5. In having to define, at this early stage, a preliminary dimensioning of WTC in Gioia Tauro, it seemed useful to refer to *Gross leasable area* - GLA, the parameter used for classification and dimensioning of the malls.

This value, in fact, is particularly useful as it refers to the usable area, rented and/or sold, that is able to produce income. It encompasses the entire area in which it takes place a certain commercial activity: from entertainment activities, boardroom and offices, to commercial and exchange business, sales activities, goods reception and storage (warehouse), and also production, such as laboratories.
In particular, it was taken in account that:
- the value of GLA is typically 70-90% of the total area of a shopping centre;
- this figure does not include parking or public spaces such as galleries, services, etc .; such spaces defined "common area" are in fact considered separately and vary, by subtraction, from 10 to 30% of the area total, with possibility to be increased where the availability of the available area so permits. "The common area" in particular includes the green, roads and common services;
- the need total area in sq.m is derived from the follow addition: Area Totale=GLA + common area + parking (calculated in only one level)

6. The Statistical Archive of Active Enterprises - ASIA is a register of enterprises and local units annually updated by the National Institute of Statistics - Istat through a process of integration of administrative sources and statistics.

7. The analysis carried out relating to socio-economic aspects have provided the following data: companies operating in the area: 86 present of which 36 are operating; Exporting companies: 915 already operating in Calabria in 1315 and potential; foreign partners and potential: 30 existing and 9 others can be involved.

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