## *SUMMARY*

The investigation is important in the development of countries and his societies; the economies are not based only in the accumulation of capital, it´s necessary a solid foundation of information, learning and adaptation. The development of the capacity inventiveness, obtained by means of the investment in investigation and development.

The cataloging of the architectural heritage involves new challenges of conservation.

The problem of the conservation is not new, but in the 20th century there are big advances in the methods of investigation no destructive.

The Letter of Athens of 1931 defined the first bases of the conservation of the monuments. Between any of his recommendations stand out one of them that invites to keep the utility of the monuments so that it ensure the continuity of his life, with destinations that respect his historical character and/or artistic as it occurs in "*la Lonja de Valencia*".

The origin of this thesis and his development is oriented in one of the lines of investigation that in the Memory of the IX Congress APEGA proposes in the section of professional Investigations (connections of the drawing with other fields) in his first appendix: GRAPHIC EXPRESSION AND HERITAGE: NEW METHODS OF ARCHITECTURAL LIFTING.

This Thesis is centered around the utilize the SCANNER LASER 3D, the ELECTRONIC TOTAL STATION and other traditional methods, as new methods of Graphic Lifting and of precision in the field of the Architecture, to scale real and in the three-dimensional space.

Choose the Lonja of Valencia has his sense by his Universal interest, when being the only existent building in Valencia considered Heritage of the Humanity by the UNESCO.

Apply it to the Architectural Graphic Expression and Heritage supposes all an effort that has concretize in the following title:

"THE ARCHITECTURAL GRAPHIC LIFTING OF PRECISION. THE JAMB OF THE PORTAL OF MAIN ACCESS TO LA LONJA DE LA SEDA DE VALENCIA".

Has been vertebrated the present investigation with the following succession of contents:

Visit the urban and social surroundings more immediate of the monument from his construction until the actuality, to find out what conditions the city in his social position inside the country. Descend until the building to know the purpose of his construction and analyze the forms of work of his author.

Use from the simplest tools like combs archaeologist, until the most modern instruments in instrumental technology and study his evolution to be able to appreciate his working capacity.

Analyze the degree of accuracy of the measures that provide us the new instruments used in the architectural graphic lifting: the Scanner Laser 3D and the Total Station, from the most elementary instruments: the metallic metric strip, the foot of king and archaeologist comb millimeters.

Compare the geometry obtained with the theorist to study his metric, his composition, his symmetry, his proportion and his section original.

Compare the results and the protocol of the lifting made, with others of international importance.

The lifting proposed in this thesis pretends to reflect the morphology of the group and the one of his parts. We have evaded the defects of some pieces opting for regularization of the elements that take part in the monument. The measurements have been made using the metric system decimal, the millimeter like generic unit of work and precision. It has had present his relation with the metric system valid in Valencia as we will see and will justify in the subject of the metric used.