

## **AUTOMATION IN CONSTRUCTION -THE IMPLEMENTATION PROSPECTS (Abstract of a plenum lecture)**

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The possibilities of application of robotization and automation in construction have been widely explored over the last 15 years.

The expected benefits of robotized construction were as follows: productivity savings, elimination of dirty and dangerous tasks, improved quality of construction work, and alleviation of the labor shortage in countries with labor scarcity in construction.

An extensive research in this area has been conducted in many countries, and a considerable number of prototypes of robotized systems has been developed and tested.

Despite this effort and the obvious benefits of automation in the fields of productivity, safety and quality, the implementation of automation in the construction practice has been to date very limited. It was disappointing to find out in a special survey which was conducted to this end that only a very small number of the conceived systems have reached an actual implementation stage, and even less were found commercially, viable.

The main reasons for this lack of success can be enumerated as follows:

- a. Economic environment not suitable for robot use.
- b. Conservatism on the part of construction managers.
- c. Difficult adaptation to the existing organization of the building sites.
- d. Difficult adaptation to the prevalent building designs.
- e. Complicated handling and operation.
- f. Need for special training.
- g. Failure to deal with a robot as a system.

The lecture will address this problem. It will review in detail the development effort of robotization over the last decade in the light of the survey results, with particular attention to the implementation aspects. It will examine the impediments which hinder the implementation and discuss the possible solutions to overcome them.