

Current Status on Automation and Robotics in Construction : Situation in France

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From 1984 to 1989, many efforts were made in France to promote construction robotics. Prospective studies and experimental projects were carried out. All these projects were granted by public funds mainly through an incentive programme of the French Ministry of Construction (IN.PRO.BAT. programme, the acronym stands for Computer Integrated Building Process).

Many meetings, publications and working groups have been organized during this period. The stirring up of professionals has been quite successful in the way that most of them paid attention to the information that was given and few of them were strongly involved in these projects.

A summary of most of these projects was published and is available on request [1].

In spite of this temporary success, it has been very difficult to maintain a cooperative activity on these subjects since 1990.

There are many reasons for that change. First of all, the IN.PRO.BAT. programme ended. New research programmes have been launched which favoured the development of softwares for a better communication between construction partners. This choice was consistent with one of the main conclusions of the studies on construction robotics : a prerequisite to the introduction of automation and robotics on construction sites is a better description of construction operations. This means both efforts to organize tasks and to transmit relevant information to the right partner at the right time.

Another reason for this change is the lack of strong will to cooperate between construction partners. Short term projects are necessarily competitive and long term projects are not normally considered in our field of activity. There are of course counter-examples : a small group of experts consisting of strongly involved individuals representing some contractors, machine manufacturer and industrials goes on meeting to try to keep an eye on the developments of construction robotics and to maintain international contacts.

As a consequence, research on construction robotics has now a lower priority and the funding of this activities is a major problem.

The remaining technical projects mainly concern the developments :

- of a large scale manipulator (ATLAS project carried out by POTAIN and the CBC construction company);
- of an automated building construction process (ARTEMIS project carried out by a small construction company) ;
- of positioning systems for civil engineering and road construction activities (SIREM project carried out by the LCPC, laser positioning system developed by the CSTB).

Many of the previous technical projects and of the previous prospective studies were just abandoned. This made high-tech firms which showed interest in construction robotics to stop their investigations.

Efforts to promote international cooperation have been partly successful up to now. IAARC has an essential role to play to increase this cooperation.

The level of activity for the coming period will be closer to a survey activity than to a technical development activity. A greater involvement of end-users should be needed to change this situation.

REFERENCES :

- [1] "Robotics in Construction : projects and perspectives".- PARIS, Cahiers du CSTB, n°2412, livraison 309, mai 1990