



Robots for inspecting large industrial installations

- *A European project led by IK4-TEKNIKER is seeking to use robots to improve the industrial maintenance of large industrial installations*
- *MAINBOT, with a budget close to 4 million euros, will be developing robot prototypes that it will be validating in a real scenario*

(Eibar, Basque Country. APRIL 2012). If robotics is breaking into most sectors of activity in a decisive way, if its growth is exponential and if its benefits are obvious, why should it not be applied to industrial maintenance as well? Efficient, effective maintenance is crucial in all types of production plants, and exerts a great impact on operation costs, particularly in those industries that require major capital investment.

This ambitious aim to improve industrial maintenance by using robots is what MAINBOT, a European project led by the Basque R+D centre IK-Tekniker, is setting out to achieve; the project has a budget of nearly 4 million euros, partly funded by the European Union. The Spanish companies Torresol Energy Systems (end user at its thermosolar power plant) and Tecnatom (non-destructive testing); the French company Robosoft; and the German R+D centre Fraunhofer IFF (suppliers of the robots) are also participating in this consortium.

The project, which began in November 2011 and which is scheduled to go on for three years, is included in the FoF (Factories of the Future) programme, which, with a budget of 10.35 million euros, forms part of the European Economic Recovery Plan (EERP) and proposes the launching of Public-Private Partnerships (PPP).

In the case of MAINBOT, the consortium is seeking to use service robots that autonomously carry out the work to inspect very large production plants. This will be possible thanks to the development of two specific types of robots: terrain robots for inspecting 'horizontal' equipment and installations, and climbers capable of scaling 'vertical' industrial equipment, like flues or large tanks.

These robots will have special capabilities for measuring multiple parameters by means of sensors fitted to them and handled by them; they will also monitor the state of the

installations by identifying faulty or worn parts by means of non-destructive techniques. The consortium will be validating these prototypes in a real scenario: a thermosolar power plant belonging to Torresol in the province of Cádiz (Spain).

That way, industries will be able to address the specific maintenance problems of large installations more efficiently; such installations are characterised by their large size, the high number of points to be inspected, the range of techniques to be used for this purpose, and the high level of risk in the working conditions of personnel.