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Science and nature

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The Bulgarian Kibertron humanoid project

The Bulgarian Kibertron (Cybertrone) Humanoid Project snatched one of the European Innovation Awards at the Innovact expo of innovations in the French city of Rheims. The Innovact Salon is among the few in Europe, dedicated to start-ups whose business are innovations. More than 200 companies from several dozen European cities presented their products at the fair. Earlier this year, in September, the Android World US on-line publication ranked the Bulgarian project leaving world giant Sony behind. The European Commissioner on Scientific Research Philippe Busquin, who awarded the winners said:

"Geographic limitations should not apply to the European scientific field, as it is a state of mind in a Europe that is constantly expanding, and which Bulgaria will soon enough become a part of. Your country has solid traditions in scientific research. I have made personal acquaintances with several members of the Bulgarian Academy of Sciences." What are Kibertron's advantages?

Unlike fellow projects, it does not use the artificial intelligence of traditional computers. It belongs to the natural intelligence type and is based on the universal theory of the nature of time and communications within systems, whose laws apply both to Universe and Man. This is a way to evade the "trappings" of the search for more powerful computers and is also a means to save energy.

"A device used to bring certain order to the chaotic condition, known as the "chaotic computer", lies at the core of the project, "project leader Ahmed Merchev explains. "The same principle applies also to human thoughts. As to Kibertron's mechanics, we have utilized an electronic and mechanic muscle that we had developed. This muscle imitates entirely the human muscle fibers, and thus has a contracted, semi-contracted and relaxed state. The algorithm that runs the mechanical parts has been based on a biological approach, thanks to which Kibertron will be able to walk, bend over, and run. Like Man, except for the central nervous system, that is its mind, Kibertron has a system of conditioned reflexes. And again like Man, Kibertron has developed the junctions that suppress the mind in critical situations. For example, when it stumbles over something, a reflex arch is closed, and actions occur opposite to the direction of the stimulus to regain equilibrium."

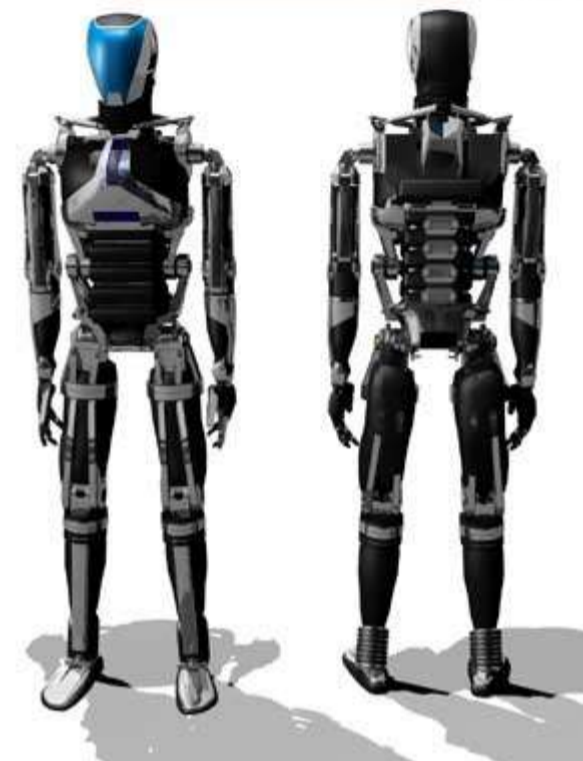
Like Man, teaching is essential to Kibertron's functioning. But once developed, the software will be applicable to the necessary number of clones. Thus, Kibertrons could be assigned to perform various tasks. The idea is to replace the human factor for work in a hazardous environment.

"The first simulations of the Kibertron control panel have proven we were on the right track," Ahmed says, and hopes that in a month's time the principal intelligence module will be connected to the system controlling the movements of the arm. He says that the first step will be to conduct the "learning" process, albeit on a "software level".

Written by Maria Dimitrova
English version by Radostin Zhelev

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The Bulgarian Kibertron humanoid robot, with won a European innovations award

Photos Maria Dimitrova

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