STRATEGII DE DEZVOLTARE PENTRU NANOTEHNOLOGIA MOLECULARĂ

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DEVELOPMENT STRATEGIES FOR MOLECULAR NANOTECHNOLOGY. The term "Molecular Nanotechnology" (MNT) refers to the ability to program matter with molecular precision, and scale it to three-dimensional products of arbitrary size. If we are to manufacture products with molecular precision, we must develop molecular manufacturing methods. There are basically two ways to assemble molecular parts: self assembly and positional assembly. Self assembly is now a large field with an extensive body of research. Positional assembly at the molecular scale is a much newer field which has less demonstrated capability, but which also has the potential to make a much wider range of products. Experimental work using the SPM (Scanning Probe Microscope) is clearly going to revolutionize our ability to make molecular structures and molecular machines A large number of software programs are relevant to nanotechnology, ranging from detailed quantum mechanics calculations to computer-aided design (CAD) software. Many such programs have been placed in the public domain or released as open source.

Key words: molecular nanotechnology, manufacturing methods, software programs.