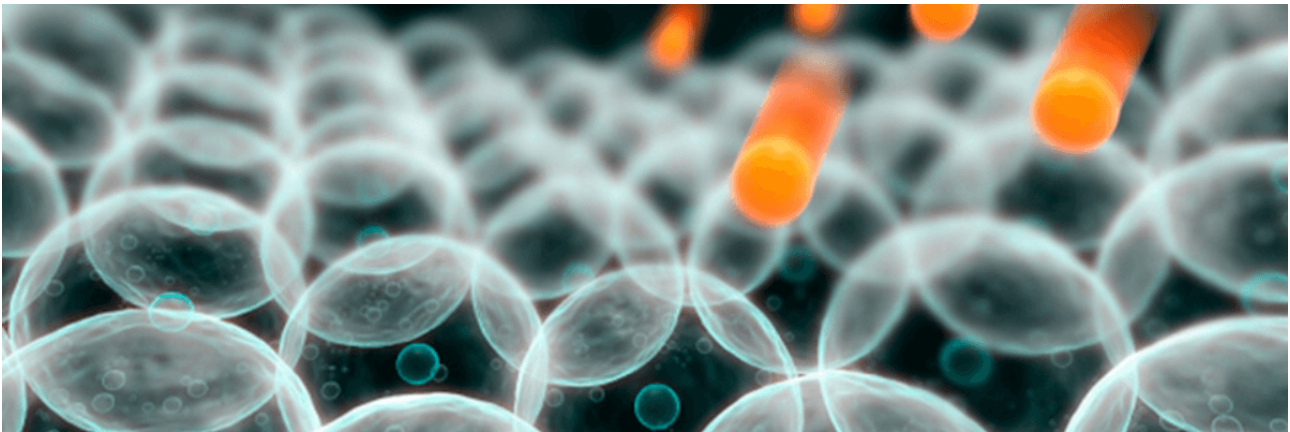


## Controlling A Nanotechnology Revolution - HardcoreInvestments



Nanotech, is the manipulation of matter on atomic and molecular scales and is currently used to describe micro-scale technology in everything from space technology to biotech, a technology that has already changed the world.

Nanotechnology is helping to considerably improve, even revolutionise, many technology and industry sectors: information technology, energy, environmental science, medicine, homeland security, food safety, and transportation, among many others.

It is said that the next phase of Nanotech is "atomically precise manufacturing (APM)" which will have the power to produce radically more of what people want, and at a lower cost. The result could shake the very foundations of our economy and environment.

A vast abundance (Radical Abundance) and complete automation will lead to essentially no one having jobs and everything becoming free, money will cease to matter. Radical Abundance offers a mind-expanding vision of a world hurtling toward an unexpected future, and that future may not necessary be that good. The paths forward to atomically precise manufacturing require further advances in atomically precise fabrication, an area that began with organic chemistry more than a century ago and continues to make great strides. A sharper engineering focus will bring faster progress and further rewards, just as progress in atomically precise fabrication has brought rewards since the beginning in science, industry, and medicine.

According to [Drexler](#), there is no substitute for atomic precision because there is no substitute for precisely controlling the structure of matter. The only known way to do this is by guiding the motion of molecules to put them in place, according to plan, by means of directed bonding - in other words, by some form of atomically precise manufacturing. Since there are many ways to develop these technologies, I'd say that all roads forward do indeed lead to atomically precise manufacturing (APM).

Drexler originally claimed that the nanotech revolution would happen with an "assembler breakthrough", which would see self-assembling [nano-machines](#) rapidly producing many other such machines that could then produce consumer goods with very little energy or capital expenditure, but Drexler has backed away from this idea, and now describes the breakthrough as being something like a traditional factory, with tiny machines creating

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basic building blocks, and then passing them on to slightly larger machines, which then pass their products on to slightly larger machines, until finally ordinary-sized robots assemble the parts just like any other consumer goods of today.

[The National Nanotechnology Initiative](#) (NNI), funded by the U.S. Congress in 2000, betrayed its own mandate and Drexler's nanotech vision by a radical shift in their definition of nanotechnology. The original plan for the NNI defined nanotechnology as atomically precise technology, its later implementation plan defined nanotechnology in terms of scale, greatly enlarging the range of techniques that could be funded under its auspices. For Drexler, this amounted to a betrayal on multiple levels.

In 2000 the promoters of a federal nanotechnology program sold a broad initiative to Congress and then promptly redefined its mission to exclude the molecular sciences, the fields that comprise the very core of progress in atomic precision, and thus the word "nanotechnology" had been redefined to leave out what matters most to achieving the vision that launched the field.

There is no real scientific consensus on whether APM is feasible in principle, and significant scepticism has been expressed in some quarters, yet the US National Academy of Sciences (NAS) conducted a feasibility report of atomically precise manufacturing, and found that it was inconclusive regarding the technical feasibility of APM. The NAS report was initiated in response to a Congressional request, and the result was included in the first triennial review of the U.S. National Nanotechnology Initiative.

There is no doubt that tiny self-replicating machines could potentially have very positive as well as negative consequences for the world, from the accidental out of control self-replicating machines which consumes the Earth's resources, and turning the earth to "goo", or the controlled self-replicating machines that solves climate change and pollution.

But what happens in a radical abundant world built by self-replicating machines to the socially agreed function of money to represent value?

[Eric Drexler Lecture & Debate](#): How a Revolution in Nanotechnology Will Change Civilization