

A Global Surge Protector?

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Chances are you have a surge protector in your home to shield electronic devices from unexpected power surges. Someday soon, we may need protection from unprecedented surges in global political power.

Rapidly increasing productivity, fueled by automation, robotics, and exponentially faster computers, could bring a huge surge in *economic power* over the next several decades, according to [Robin Hanson](#) of George Mason University:

"A new growth mode should arise sometime within about the next seven industry mode doublings (i.e., the next seventy years) and give a new wealth doubling time of between seven and sixteen days."

Meanwhile, increasing automation, robotics, and exponentially faster computers also will lead to a huge surge in *military power* during the same time period, according to [Mark Gubrud](#) of the University of Maryland:

"An arms buildup...could reach fantastic proportions in the time frame of historical military crises... The nanotechnic era [will be] militarily as different from the present as the present is from the pre-nuclear era."

The combined control of economic and military policies represents *political power*. If Hanson and Gubrud are right, one or more political leaders soon could possess more power over people and events than the world has ever seen.

Is there any way to ensure that such awesome power will be used responsibly?

Experts who have studied these fast-moving economic, military, political, and technological trends are concerned that large-scale war, which has been [on a decline](#) for several decades, could become more likely and more deadly. Unless only one nation or bloc of nations has a distinct power advantage, a battle for supremacy may ensue. But, as discussed in a previous [Future Brief essay](#), a new arms race conducted under rapidly changing conditions could be highly unstable, and could result all too easily in devastating war.

Perhaps we would be better off if only one nation did possess all this power. Then, at least, global war would be less likely.

On the other hand, such an historic concentration of political, economic, and military power may be hard to keep stable. The sturdy old maxim, "Power tends to corrupt; absolute power corrupts absolutely," has never been fully tested. For, until our time, conditions have not made it possible for true world domination to exist.

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Behind the economic and military power surges foreseen by Hanson and Gubrud is the strength of emerging technologies. In particular, advanced nanotechnology – [molecular manufacturing](#) – is expected to enable dramatic changes in virtually all areas of life, including the home, the hospital, the boardroom, the battlefield, and the natural environment. Some refer to this as the next Industrial Revolution, and that is not an unreasonable comparison.

The big difference, however, between previous industrial revolutions and the nanotech revolution is the time span covered. Steam engines, electricity, the automobile, telecommunications, computers: these all brought extreme transformations to society, but they each did so over a period of decades. When molecular manufacturing arrives, probably before 2020, a [shock wave](#) of change could reverberate around the world in only a year or two. Never before have disruptive impacts occurred so rapidly.

Some of the troubling implications include: massive job displacement causing economic and social disruption, threats to civil liberties from ubiquitous surveillance, and the specter of devastating wars fought with far more powerful weapons of mass destruction.

It's easy to see how these events could jolt the balances of economic, military, and political power. Such a surge might destabilize conditions so much that social chaos will erupt and spread across the globe, and that, unfortunately, offers a prime opportunity for ambitious rulers to seize total power.

Think of the times in the last century when ruthless dictators were able to gain control: Stalin in the Soviet Union, Hitler in Germany, and Mao in China, among others. In each case, their countries were torn by economic and social turmoil and by the ravages of war. Now, picture those same conditions on a global scale, and imagine a leader emerging who promises to restore stability, to enforce law and order, and to ensure economic security.

Unfortunately, this scenario is not at all implausible.

What can be done to prevent this? Could a "global surge protector" be devised and implemented?

If so, it clearly will not be as easy as a trip to the neighborhood hardware store. International agreements may be a necessity to avert worldwide chaos, despotism, and/or war. Determining what is needed will require extensive and intense study. Any global agreements must be planned carefully and wisely. Finding an acceptable balance between security, stability, opportunity, privacy, and transparency will be a difficult challenge. Because it will take a long time to design and then deploy such solutions, it is urgent that we begin as soon as possible.

Molecular manufacturing represents power: political power, military power, and economic power. Who controls that power and how widely—how *democratically*—it is distributed will make all the difference when the technology is developed. Decisions we make *before* that time will determine whether our world becomes safer or more dangerous; more just or less just; more free or more oppressive.

This essay is original and was specifically prepared for publication at Future Brief. A brief biography of Mike Treder can be found at our main [Commentary](#) page. Recent essays written by Mr. Treder can be found at the [Center for Responsible Nanotechnology](#). He receives e-mail at mtreder@crnano.org. Other websites are welcome to link to this essay, with proper credit given to Future Brief and Mr. Treder. This page will remain posted on the Internet indefinitely at this web address to provide a stable page for those linking to it.



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