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## **ABSTRACT**

### **A TRIUMVIRATE OF FORCES (PLAINTIFFS, INSURERS AND REGULATORS) SOON WILL IMPACT NANO COMMERCIALIZATION: A PREDICTIVE ASSESSMENT OF GOVERNANCE, ECONOMIC AND PUBLIC PERCEPTION IMPLICATIONS**

Beginning with the invention of the Scanning Tunneling Microscope in 1981, the rapid emergence of nanoscience and nanotechnology has been as awe-inspiring, with the promise of new solutions to the grand challenges facing society, as it has been troubling with unknown risks to workers, consumers and the environment. The nano commercialization community has surged forward with production across multiple industries. With predictable market forces encouraging speed to market, there has been little opportunity to fully consider the consequences of commercialization or to conclusively coordinate issues of governance.

Just over thirty years later, commercialization is in full force and growing exponentially, while regulatory action grounded upon deep understanding of risks lags behind. Meanwhile, public perception of the risks and benefits remains a sleeping force, with a very small percentage of the public having any significant cognizance of nanotechnology, much less an opinion as to its deployment, or even its pervasiveness today. The current situation is the result of circumstances not under the control of a single individual or organization. Like other historical instances of the emergence of new and disruptive technologies, a range of factors converges to determine its destiny.

An unprecedented scenario is on the horizon that will likely recalibrate the speed with which nanotechnologies reach the marketplace in the U.S., with implications for the economy and national competitiveness. In the coming years, the nano commercialization ecosystem will face a triumvirate of forces (plaintiffs, insurers and regulation) that have heretofore had very little impact on the pace of commercialization. Their entrance into the arena of nano commercialization will change the calculus in significant ways. An array of changes to nanotechnology governance will result, changing the nano commercialization landscape while awakening and sparking more intense public awareness and engagement.