Opening Statement of the Honorable Lee Terry
Subcommittee on Commerce, Manufacturing, and Trade
Hearing on "Nanotechnology: Understanding How Small Solutions Drive Big Innovation"
July 29, 2014

(As Prepared for Delivery)

Thank you all for joining us today to discuss nanotechnology—a catalyst that I believe could play a leading role in the next wave of economic growth.

Just as electricity, telecommunications and the combustion engine fundamentally altered American economics in the "second industrial revolution," nanotechnology is poised to drive the next surge of economic growth across all sectors.

Nanotechnology refers to the ability to manipulate matter between 1 and 100 billionths of a meter—an endeavor that is no small feat.

This capability is helping solve long-intractable problems.

For example, as computers get smaller, the problem of heat generation becomes more and more severe, and nanotech could hold the solution.

Currently, there are natural barriers to making transistors, semiconductors and computers any smaller because the heat generated during use destroys the material if that material is below a certain size.

The ability to harness the inertia of an electron could one day allow a computer to operate on its own recycled waste heat.

This capability is called spintronics, and it would allow electronic computer parts to break through that size barrier.

Dr. Binek, who is here from University of Nebraska, will expand on the idea of spintronics and describe his excellent work in this area of nanotechnology.

Advances in nanotech doesn't just mean we can make things smaller—the ability to harness matter at the nanometer level has applications across many industries.

In medicine, nanotech research has revealed that advanced nerve regeneration and cancer detection, diagnosis and treatment methods could be just around the corner.

In manufacturing, nanotech research has allowed us simply to make better materials.

For example, nanocomposites can be used to decrease the weight of the bumper on a car, while enhancing its resistance to dents and scratches.

And wires used to transmit electricity made from carbon nanotubes could one day eliminate much of the electricity loss that occurs in transmission.

Today, we seek to learn more about what obstacles stand in the way of nanotech research, but also any barriers that exist between the research and development stage and full-scale commercialization.

There is no question that the U.S. is a leader in nanotech research.

But as U.S. researchers make new discoveries and new applications are revealed, I am concerned that other countries are doing more to facilitate nanotech development than we are.

Nanotech is a true science race between the nations, and we should be encouraging the transition from research breakthroughs to commercial development.

I believe the U.S. should excel in this area. Historically, we have a great track record on generating startups, which is fueled by our entrepreneurial spirit.

However, for the first time since the Census Bureau started measuring this statistic, more businesses are failing than starting in the United States—400,000 businesses are born annually nationwide, while 470,000 are failing.

Accordingly, I am curious as to whether—given this hostile business climate—there are regulatory obstacles to adoption of nanotechnology in the commercial context.

As Dr. Binek notes in his testimony, Moore's Law tells us that the performance-to-cost ratio of computing power doubles every 18 months or so.

I believe we ought to be careful not to slow down the progress described by "Moore's Law" with "more laws."

Again, I thank the witnesses for being here today and look forward to their testimony.

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