

Testimony of Dr. Terry Brewer  
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Before the  
United States Senate  
Committee on Commerce, Science, & Transportation  
"The Role of Manufacturing Hubs in a 21st Century Innovation Economy"  
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**Introduction:**

Thank you Chairman Rockefeller, Ranking Member Thune, committee members, and distinguished guests. My name is Terry Brewer, and I am President of Brewer Science, an advanced technology innovator and manufacturer located in Rolla, Missouri, which is located halfway between St. Louis and Springfield, Missouri. We support our customers worldwide with a service and distribution network in North America, Europe, and Asia. I appreciate the opportunity to speak with you today, and I want you to know the support of advanced manufacturing is of great interest to me, my company, my industry, and my community.

**Brewer Science History:**

I founded Brewer Science in 1981 and established its headquarters in Rolla, Missouri. Brewer Science is a major innovator of high-technology processes and materials used to create ultra-small circuits that enable devices such as tablet computers, smartphones, digital cameras, and flat-panel monitors and TVs. The stringent specifications of these products provide Brewer Science with opportunities to leverage the company's experience and creative capabilities to develop needed advances in technology for both government and private sectors. Our product line encompasses unique materials, processes, and equipment that are used to give devices more capability in less space for lower cost. Most microelectronic devices we rely on in our daily lives, including the smartphones you are using, would not be possible without the technology we deliver and continue to develop at Brewer Science.

**Fostering Success:**

Historically, the government has helped to create an environment where entrepreneurs can succeed, allowing the private sector to successfully develop emerging technologies, which lead to new products and new advanced manufacturing jobs. Public-private partnerships have also had a big impact on developing many technology-focused aspects of our economy. For example, Silicon Valley would not have become a global driving force in microelectronics development and manufacturing if not for government support. So, how can our government continue to foster great U.S. technology business development? How can we sustain and grow our global technology leadership? These important challenges can be surmounted through several approaches, including tax reform, particularly if it includes making the R&D tax credit permanent; broad-based federal regulatory relief; long-term authorization and continued oversight of the SBIR program; enforcement of the existing intellectual property laws and international trade agreements; continued support of STEM education programs; and establishment of a select number of advanced manufacturing centers that support diverse innovations and locations throughout the United States.

### **Tax and Regulatory Consistency:**

As both an innovator and a business owner, I confront many challenges in both managing my business and innovating tomorrow's technology. One area where Congress could make a big impact is tax reform. As it stands now, the tax code is too complicated, which results in higher compliance costs for smaller businesses like mine. In addition, long-term planning is very difficult when many pieces of the tax code expire after a couple of years and have to be renewed – sometimes many months after they have expired. For example, the R&D tax credit is vital to both my company and the economy as a whole, as it encourages people to take risks and deploy capital, which is almost always limited, to new ideas. It is difficult for me to do the type of long-term planning that, ideally, I would like to do, when faced with a regular expiration of the R&D credit.

Enforcement of our intellectual property laws is also vital to the success of the American entrepreneur. I strongly encourage Congress to continue to push the regulatory agencies to enforce these protections. In a global economy, it's very easy for companies and state-backed entities abroad to steal our ideas and inventions.

### **Access to Innovation:**

Location or size of a community is no longer a necessary factor for a successful business. Brewer Science is proof of this, and we are not alone. Brewer Science could be located anywhere in the world, but I chose rural Missouri. Not everyone in the United States associates rural Missouri with advanced, high-technology manufacturing, but that is changing - and the reason is, simply, innovation. The ease of user access to technology we have in the United States is key to making our country the global innovation leader. Our strengths in workforce development, education, and community growth programs have one thing in common – innovation with freedom of location. By diversifying the location of the proposed advanced manufacturing hubs throughout the country, you are taking advantage of this innovation development strength.

### **Applied STEM – U.S. Advanced Manufacturing:**

Much attention has been given to support of STEM-related education programs and to attract more students to the STEM fields. I also fully support these efforts. However, I would like you to consider this - students will be attracted to STEM fields when they can clearly see the value of participating in these areas. Science, Technology, Engineering, and Mathematics do not create jobs by themselves. Industry and manufacturing that require these skills do. By supporting the creation of advanced manufacturing centers, you will be providing places for people to implement STEM. If you want to keep the best talent in the United States, make sure the best opportunities for them are located here.

### **Diverse Technology Solutions:**

There are many different approaches to fostering advanced manufacturing in the United States. I applaud the authors of the proposed bipartisan advanced manufacturing legislation, including Senator Blunt and Senator Brown. In particular, one of the powerful elements of this bill is that it does not attempt to determine technology winners. By not prescribing the specific technology solutions, you are encouraging our business and scientific minds to explore and determine the best and most needed solutions. The approach outlined in this bill leverages the experience and capabilities of our best talent, while auditing and encouraging those companies that deliver results.

**Conclusion:**

In conclusion, the leaders that have constructed this bill should be praised for their willingness to invest in the great U.S. manufacturing engine that is so vital to our people, our communities, and our nation. Other countries see the value of attracting the businesses and people that embrace advanced manufacturing to their locations. When our government provides the leadership and support needed to coordinate the establishment of advanced manufacturing hubs that embrace diversity in location and technology in the United States, our people, communities, and businesses will grow and provide the foundation for us to solve our next unforeseen challenges. The same confidence, intelligence, and belief in the values and principles that have built our great, great nation are demonstrated in this bill and will continue to sustain and enhance our great quality of life.

Thank you for your interest and for allowing me to share my perspectives with you. I would be pleased to discuss this further.