

Over a decade ago, Ames Labs began developing an ultra-hard material that was also tough and chemically stable. They discovered the combination of Aluminum Magnesium Boride+ (AlMgB14+) was hard, tough, heat tolerant, and chemically inert. The material could be combined in a variety of formulations and therefore could be adapted to fit the demands of the end user. The material was aptly named BAM, and the various formulations are called the “BAM Family of Materials” because of the versatility of the material. The Lab worked to broaden the utility of the materials by developing various methods of application and, in conjunction with the Iowa State University Research Foundation (ISURF), filed a number of patents.

As the lab’s advances progressed, much interest was generated in the BAM Family of Materials. Many of the top 500 companies in the U.S. expressed interest in sampling this material. Lab testing had shown that the material was an excellent cutting tool in its solid form, and could be used as a coating on cemented carbide. It was able to cut many materials including dry titanium (with no EPA concerns with coolant as in the use of other materials). In numerous application conditions, it has also shown wear abilities as good as or better than both diamond and cubic boron nitride (cBN), the top two wear materials in the world. It was also determined that it has good electrical conductivity characteristics, unusual for a hard material. This provides yet another large market segment opening.

Linwood “Woody” Anderson, an experienced entrepreneur, had successfully incubated and commercialized an array of advanced material technologies. In each of his endeavors, including his workings with BAM, by building upon a set of core ideas, patents and processes, he was able to add the critical elements to the process that enabled the technology to become commercially viable.

In 2007, New Tech Ceramics, Inc. (“New Tech”) was founded by Woody Anderson, James Sanford and Emerging Growth Group. New Tech combines exclusive licenses to the ISURF patents with the trade secret process developed by Woody Anderson to commercialize the BAM Family of Materials and to further develop the mounting industry interest and potential demand.