CRYOGENIC MACHINING TECHNOLOGY

5ME® Cryogenics is a multi-patented technology that allows for the delivery of liquid nitrogen (LN2) at -321° Fahrenheit (-196° Celsius) through a machine tool in lieu of traditional coolant. The LN2 is plumbed internally to the cutting tool to act as a heat-sink directly at the cutting edge, and then exhausted back and away from the workpiece material as safe, inert, breathable nitrogen gas. The result is an economic and efficient solution providing game-changing optimization in terms of Sustainability, Performance, and Part Quality.

- **SUSTAINABILITY**
  - Green Manufacturing (no hazardous coolants)
  - Carbon footprint reduction (less machines; reduced energy consumption)
  - Elimination of environmental contamination

- **PERFORMANCE**
  - Increased Material Removal Rates (MRR) and Tool Life
  - Reduced piece part costs
  - Allows for the efficient machining of emerging materials

- **PART QUALITY**
  - White layer reduction up to 90%
  - Reduced force / heat stresses and part distortion
  - Reduced grain boundary distortion, less surface damage, less burrs, and better finish

Offered as both a retrofit for existing machine assets and as an option for new machine purchases, the 5ME Cryogenic System is available on the following:

- Horizontal Machining Centers
- Vertical Machining Centers
- Horizontal Boring Mills
- Turret and Ram-Style Lathes

*Seamlessly integrated into the machine tool and interfaced directly with the CNC control, 5ME Cryogenics provides a safe, reliable alternative to traditional manufacturing processes.*
With an established portfolio of BlueZone™ Cryogenic Cutting Tools produced by a global supply network of SME licensed cutting tool manufacturers, SME Cryogenics is providing multiple industries the means to exponentially increase profitability by optimizing production capability and reducing manufacturing costs for a variety of materials, including:

- Titanium
- Grey / Nodular Iron
- Carbon Fiber Composites
- Steel Alloys
- Diesel Iron
- Glass Fiber Composites
- Stainless Steel Alloys
- Compacted Graphite Iron
- Composite Stack Material

THE TIME IS NOW TO BEGIN RUNNING GREENER, FASTER, AND BETTER.

COME CHECK OUT OUR TECHNOLOGY CENTER IN WARREN, MI

6990 Murthum Ave., Warren, MI 48092
513.719.1600 | 5ME.com