Objective & Results
Inconel alloys are difficult and expensive to machine due to extreme heat generated at the cutting edge. The heat generated in the cut is necessary to machine the material; however, it accelerates tool wear. By applying through-the-spindle and through-the-tool Cryogenic Machining Technology, the cutting edge is cooled while maintaining normal cutting temperatures. The end result is a clean environment with improved tool life, increased cutting speeds, and improved surface finish.

Cryogenic Advantages
- 25% Increase in Cutting Parameters with 2X Tool Life
- 5X Improvement in Surface Finish
- Easy to Manage Dry Chips
Testing SOW

- Material: Inconel 625 Alloy
- Test Part: Bar Stock
- Tool: 5ME™ Cryogenic Single Point, Indexable Turning Tool
- Parameters: 0.004” per Rev, 0.02” DOC
- Machine: Hawk 150 HTC
- Location: 5ME Technology Center

At a speed of 105 SFM, the 5ME Cryogenic Machining process delivered significant cutting stability and predictability at twice the tool life.