Kennametal's NOVO System Helps Students Tool Up the 3D Printing Process

What We Aimed To Do

As part of the process to build innovative parts on metal additive equipment, the plates that parts are constructed on need to be refinished after every use. Refinishing requirements vary, but all involve removing any heat affected zones and returning the build plate to a very precise level of consistent flatness. At CDME, as part of the opportunity to teach students how to run machine tools, students are responsible for machining these plates to meet manufacturer specifications before reuse.

What We Did

The new machining process for these plates was developed with tooling and application support from Kennametal, an industrial technology leader in materials science, tooling and wear-resistant solutions. Under the previous process, students used manual speed and feed equations and calculators to determine cutting parameters. After working with Kennametal’s NOVO system, a suite of digital solutions to assist with tool selection, process planning, inventory availability and productivity improvements, CDME students can dial in exact machine parameters while simultaneously building a repeatable library of jobs that can be used in the future. Students will be able to learn the basics of machining quicker and refinish build plates faster and more consistently.

What's Next

In the coming months, we will be working with Kennametal to continue building out student access to the NOVO system to give students a deeper understanding of how milling and turning work, as well as the physics behind machining. This will continue to advance CDME’s goal of building a sustainable talent pipeline to support competitive manufacturing in the United States.