



Optimizing Machining Processes Q&A

KYOCERA SGS Precision Tools' Tech Hub President Jason Wells Answers Questions About Optimizing Machining Challenges.

1. How can companies today provide an optimal solution to each unique customer challenge?

A.) Like a fingerprint, every machining application is unique. Therefore, making blanket predictions for each customer is challenging. With such a complex series of engineering relationships working together simultaneously to machine a component, there are far too many variables impacting the overall outcome of an application. An optimized solution tailored to unique machining events in specific facilities with their own set of specific variables requires a specialized approach.

2. What are some examples of the unique complexities that your customers are facing?

A.) These would include (but are not limited to): tool holding, part fixturing, coolant; pressure, flow, position, concentration, material, processing, spindle; interface, rigidity, substrate, geometry, coating, programming, paths, parameters, engagements, temperatures, air pressure/quality, maintenance, torques on various assembly points. Each unique application must be diagnosed and treated on an individual basis utilizing available resources, education, technology, and experience. Just as a doctor

individualizes treatment for each patient, the same philosophy should be applied in order to completely optimize each application. This is how the most cost-effective highest performing solutions are realized.

3. How has the ever-changing cutting tool industry impacted your organization?

A.) High costs and sourcing challenges are the key deterrents. Titanium compared to steel alloys can be 20 times more expensive per pound than steel. Combine this with machining challenges and the cost per component can get high. For example, I looked at a racing parts catalog and a set of 8, 4130 steel alloy connecting rods was shown at \$250.00 where a similar set of titanium connecting rods was shown at \$6000.00.

4. In what ways has this shifted the mindset of how a company designs cutting tools?

A.) As technology evolves, so must our processes. Cutting tools are no different. This is a new way of thinking for many companies and can be of tremendous benefit to the industry. Like a race team engineers race tires to optimize performance, the same mindset must be applied to win in a machining environment. While manufacturing tools on a large scale is effective, it has presented an

opportunity to treat each customer's challenge with the individual attention it requires.

5. How can we ultimately advance the future of the tooling industry?

A.) The market is more sophisticated, technologies improve, global competition is constantly evolving. The analysis of each application, recognizing the unique variables that can impact that application and applying a customized tooling solution is a vital competitive advantage that companies can now provide. Taking advantage of this unprecedented technology to not only deliver a tool, but a well thought out and unique solution. We strive to strengthen the chain of engineering relationships and apply our knowledge to dynamically address each challenge. We are evolving from a one-size-fits all approach to a multi-dimensional solution-based approach. The special tools of today help inspire the evolution to the standard tool of tomorrow. ■

