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Top 10 Aerospace Manufacturing Solution Providers of 2019

Across the globe, the aerospace manufacturing business landscape is experiencing significant disruptions, which are highly driven by the digital innovation and transformation. While the future of the industry is expected to remain uncertain on many levels of operations, the manufacturing aspect is likely to see a surge in demand owing to customer and buyers requirements. Be it for designing or building or testing aircraft parts such as missiles, rockets, or avionics, many nations are pushing a considerable amount of funds and resources in the aerospace manufacturing.

As the equipment and avionics being utilized in the aerospace sector are drastically getting complex with time, manual manufacturing no longer serves the purpose. On the contrary, digital manufacturing is emerging as the likely alternative owing to its ability to design and develop intricate aerospace parts that are fuel-efficient and light-weight. Electrical Discharge Machining (EDM Machining) is one such digital manufacturing process; not only does it provide high-

precision equipment but also ensure less designing time.

But none of the designing and developing process would work wonders in the aerospace sector if not for work instructions software that provide structured information about new parts and its designing and managing process to manufacturing engineers. Today, the market is brimming with plethora of such work instruction software, which functions as the repository of manufacturing processes.

Besides, many aerospace manufacturing solution providers are integrating assembly line with factory automation to improve the entire business operations. Aware of these current trends making waves in the aerospace manufacturing industry, a distinguished panel comprising of CEOs, CIOs, VCs, and analysts along with the editorial panel of Manufacturing Technology Insights have indexed top 10 Aerospace Manufacturing Solution Providers of 2019.

We present to you Manufacturing Technology Insight's 'Top 10 Aerospace Manufacturing Solution Providers of 2019'



Company:
Graphel Carbon Products

Description:
An aerospace manufacturing solution provider, Graphel provides manufacturing sophistication for a host of Fortune 500 companies in the aerospace segment

Key Person:
Dave Trinkley
President

Website:
graphel.com

Graphel Carbon Products A Resolute Partner in Aerospace Manufacturing

For over five decades, the electrical discharge machining (EDM) industry has undergone a drastic makeover with regards to technologies and processes. In this ever-changing landscape, there's been one constant—the exceptional solutions offered by Graphel. A leader in graphite machining innovation and technology since 1965, Graphel has made considerable strides as a trusted manufacturing partner for several Fortune 500 companies in the aerospace industry. With over 350 years of combined proficiency in aerospace, there hasn't been a situation, highly-regulated environment, or machining complexity that Team Graphel—represented by 200 employees across three production facilities—hasn't witnessed and solved. Refusing to rest on its laurels, Graphel has expanded both its equipment and personnel for a third consecutive year and remains prepared for the impact of Industry 4.0 on the innovations in aerospace manufacturing.



Dave Trinkley

can meet our customer's needs," says Dave Trinkley, president of Graphel. Trinkley was previously a client of Graphel during his time as director of operations at GrafTech International. In 2015, he assumed leadership of Graphel after the retirement of the incumbent president. "When I took over, Graphel was already a leader in the manufacturing of electrodes in the EDM industry. However, my focus was, and remains, to grow & improve the operational efficiency of the business," adds Trinkley.

Graphel kick-started its Continuous Improvement/Lean Initiative in 2015 and has since racked up two Six Sigma black belts, one Six Sigma green belt, and a host of awards and certifications. In 2017, Graphel launched the company's new Research & Development team which focuses on productivity improvements (both internal & external), machining techniques, process stabilization and designing innovative methods to improve a client's Process Capability Index (Cpk). Since every employee—from operator to C-Suite—is involved in the company's internal quality system, the aerospace

manufacturing solution provider is bound to maintain a stupendous 4.2 Sigma Level. "We have had to conduct years of internal training—from advanced blueprint reading, CNC training, and advanced quality system training—to reach such a level," says Trinkley, before revealing that Graphel aims to reach a world-class Six Sigma Level of 5.2.

With quality as the primary focus, Graphel doesn't leave a stone unturned while deploying its solutions. Rather than taking a larger business-like approach, Graphel assigns customer service managers to each client, with the intention to create long-lasting partnerships. A perfect example of the effectiveness of this approach involves one of Graphel's biggest customers who strove to reduce 100 percent inspection of complex parts entering their facility down to <50%.

To achieve the target, Graphel conducted several studies to define the client's requirements before designing a curtailed sampling plan. "We identified the Cpk's critical to them and changed our processes to fit their particular application. Our customer is now inspecting <5% of the incoming parts and have improved the operational efficiency of their business," explains Trinkley.

The road ahead for Graphel is paved with unlimited potential. After a record-setting 2018, Graphel is expanding its product portfolio. The latest offering is precision brass tubes designed specifically for the aerospace industry. "We are the only company in the U.S. to offer this variant of tubes, all of which are 100% flow tested to guarantee customer performance. We are very excited about what our future holds at Graphel Corporation," concludes Trinkley.

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“The aerospace community is very busy right now with the need for faster solutions. By forging excellent ties with reliable vendors, sourcing only the highest grade of raw materials, and working closely with our customers to improve process efficiencies, we