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Concurrent Technologies Corporation Adds \$1.2 Million in Metal Additive Manufacturing Equipment

CTC's Total Metal Additive Manufacturing Equipment Investment Tops \$2.0 Million

Johnstown, PA, June 1, 2017 – Concurrent Technologies Corporation (CTC) has invested an additional \$1.2 million in new [additive manufacturing](#) equipment at its Johnstown, Pennsylvania, facility. The new equipment includes a VRC Metal Systems Gen III Max Cold Spray system and an AMBIT™ Hybrid Additive Manufacturing multi-task system (installed in a HAAS VF 11 multi-axis machine tool). With these additions, CTC is now able to offer clients three metal processes: cold spray, hybrid additive manufacturing, and powder bed fusion-laser. These processes can also be merged to provide customized solutions.

“We are applying our 30-year history in metals and metal processing to be an all-encompassing service provider for additive manufacturing solutions,” said CTC President and Chief Executive Officer, Edward J. Sheehan, Jr. “Additive manufacturing, also known as 3D printing, is growing exponentially in the U.S., and we have the in-house expertise to continue to deliver outstanding metal-based solutions in this emerging arena. This purchase follows a previous \$800,000 investment in additive manufacturing equipment.”

Cold Spray Additive Manufacturing Equipment

One of the company’s new machines is the [VRC Metal Systems Gen III Max](#) for cold spray technology. “The Gen III Max consumes a small three-foot by five-foot area and is on wheels, enabling versatility and easy mobility for production, repair, or in-the-field applications,” said Ken Sabo, Senior Director, Additive Manufacturing and Materials at CTC. “It can be manually or robotically operated, making it the system of choice for many repair and obsolescence applications.”

Cold spray is a solid-state process that deposits metal powder with temperatures below the material melting point through the use of a supersonic nozzle and pressurized/heated inert gas. “CTC can use cold spray to repair expensive and hard-to-acquire components on structures such as military aircraft, vehicles, and even submarines that would otherwise be scrapped,” Sabo said.

Sabo explained that additive manufacturing allows engineers to make one or two parts in a cost-effective manner. Previously, cost-effective parts production had to be done in mass quantities. “Similarly,” he said, “aging military parts that are worn or damaged can be repaired or replaced in an affordable, effective manner using additive manufacturing. CTC designed many parts for the U.S. military over the past three decades, so we are well positioned to assist our military clients with new and used parts.”

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Hybrid Additive Manufacturing Equipment

Another of the company's new machines is the [AMBIT multi-task system](#) developed by Hybrid Manufacturing Technologies. Using hybrid additive manufacturing, CTC is capable of repairing damaged or worn parts and surfaces, Sabo explained.

"CTC engineers will use the hybrid machine to employ a cladding process and build new geometry before switching to a milling operation to finish the part. While hybrid repair is a significant benefit to manufacturers, adding geometry or features to an existing part can also yield significant cost savings when applied correctly," Sabo said.

At CTC, the AMBIT™ system is paired with a HAAS VF-11 five axis milling machine. The working envelope is approximately 120" x 40" x 30" for large part repair or feature addition.

Powder Bed Fusion-Laser Equipment

CTC has been offering powder bed fusion-laser solutions for more than two years. The company purchased an all-in-one [SLM 280^{HL} 3D printer](#) after an extensive research process. With the SLM Solutions printer, CTC creates metal parts using various materials including aluminum, titanium, stainless steel, cobalt-chromium and others.

Concurrent Technologies Corporation (CTC) is an independent, nonprofit, applied scientific research and development professional services organization. Together with our affiliates, Enterprise Ventures Corporation and CTC Foundation, we leverage research, development, test and evaluation work to provide transformative, full lifecycle solutions. To best serve our clients' needs, we offer the complete ability to fully design, develop, test, prototype and build. We support our clients' core mission objectives with customized solutions and strive to exceed expectations. For more information about CTC, visit www.ctc.com.