3D METAL FORGE
Intellegent Additive Manufacturing Technologies

Additive Activities

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Additive Manufacturing is not just a short-term solution

A great deal has been talked about additive manufacturing being a solution to supply chain delays, and sustainability and environmental goals – see the article on page #2 below, *"... we haven't even scratched the surface in the evolution of the additive manufacturing industry – as AM's synergies with transformative technologies can help to strengthen the factory of the future."*

The real impact of additive manufacturing however, may be its ability to revisit and improve upon the way things are designed and produced. Manufacturing, the way things were produced, across many industries and market segments has not changed in decades. In large part because years ago, there was no other way to produce many objects, as well as a natural resistance to changing what has worked in the past, and for many industries, the aversion to risk. - particularly if the current means of manufacturing and the resulting parts have functioned, under normal circumstances, as required.

While taking advantage of the very real short-term benefits of just-in-time delivery, particularly when traditional methods or vendors can't meet a critical delivery schedule, is a justifiable benefit. Today, *"this is the way we've always done it, or this is good enough, we don't need to improve this part's performance,"* is simply short-sighted – and borders on irresponsibility.

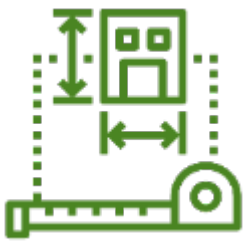
American manufacturing has traditionally been built on striving for constant improvement and innovation. 3D Metalforge (3DMF) and our additive manufacturing solutions are driven by our constant desire to help clients improve upon those things that are critical to their continued success and market leadership position.

Additive manufacturing's real customer benefit

That said, the primary long-term benefit of additive manufacturing is not solving a supply chain emergency or its positive impact on sustainability goals, but rather the ability to manufacture a better performing, longer lasting part. Our ability to evaluate a required part and understand its use and performance requirements and through a variety of factors offer design improvements or material alternatives to improve performance are keys to 3DMF's long-term client benefit and a greater return on our clients' financial investment.

Part of 3DMF's ambition and brand promise is to be the one global additive manufacturer clients trust to deliver on our promises of ***innovative and custom-engineered solutions*** that help them meet all their changing component part manufacturing production and performance challenges. 3DMF continues to work toward our goal of providing greater value to our clients through new and innovative solutions. To always be willing and able to meet any client challenge and requirement, and to strive to find new ways to exceed our clients' expectation and goals.

Design File

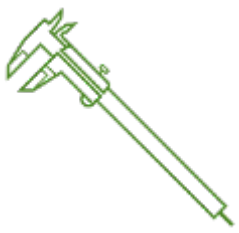


Measuring

Material Analysis

Finalise CAD

2D check



Verification

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Additive Is Shaping the Factory of the Future

We are at an inflection point, where the pressure to upgrade unresponsive supply chains and wasteful processes are intersecting with a maturity adoption curve for 3D printing.

Additive manufacturing has long been heralded for its flexibility as a production method. More recently, additive's ability to safeguard against global supply chain challenges has helped accelerate adoption. Its versatility has made it a leading technology for many manufacturers. In addition, additive possesses unique benefits that are complementary to sustainability and automation, which are increasingly important to manufacturers as they look to build the factory of the future.

Creating Sustainable Practices

Industrial organizations are beginning to further utilize additive manufacturing to achieve their environmental goals. Several additive manufacturing organizations have joined the Additive Manufacturer Green Trade Association (AMGTA), a global trade group created to promote the environmental benefits of additive.

Stricter European regulation and U.S. legislation are driving companies to focus on more environmentally friendly production methods. For instance, Ford and Volvo are using 3D printing across their production lines and printing components, tooling and spare parts at their facilities. Additive allows these goods to be produced on-demand, on-site, and at scale, eliminating the bulk of carbon emissions from transportation and delivery models. As we grow the scale of these applications, they could have an even bigger impact on reducing emissions in the manufacturing sector.

Furthermore, there is very little waste associated with additive. Compared to subtractive manufacturing, such as CNC machining, where materials are cut away and disposed of, additive manufacturing can reduce waste and materials costs by nearly 90% while also improving energy use by 25 to 50%. These benefits extend to the related supply chains; additive manufacturing technologies lead to more efficient production paths that help businesses lower their environmental footprints.

3D printing has helped NASA engineers design, develop, and test autonomous systems and processes much quicker than they could otherwise by rapidly iterating on designs for prototypes at costs 10x lower than were possible through traditional processes. As automation becomes more prevalent to support Industry 4.0 transformation, we are seeing a deeper integration with additive manufacturing.

We are at an inflection point for global manufacturing – a point in which the burgeoning pressures to upgrade unresponsive supply chains and 20th-century energy-intensive manufacturing and transportation processes are intersecting with a maturity adoption curve for 3D printing. Over the next year and into the coming decade, we expect tremendous growth in the use of 3D printing to reduce environmental impact, ameliorate supply chain issues and generate resiliency against future shocks. However, we haven't even scratched the surface in the evolution of the additive manufacturing industry – as AM's synergies with transformative technologies can help to strengthen the factory of the future.

Read the entire article at: [3 Ways Additive Is Shaping the Factory of the Future]