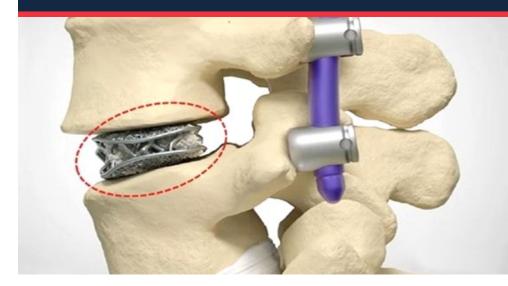


### THE UPM MARKET INFORMER



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### **Additive Manufacturing in the Medical Industry**

Additive manufacturing is changing the manner in which we think about manufacturing as a whole. Though it is a revolutionary process that allows for faster prototyping, increased accuracy, and more durable products, it will not be able to replace all traditional manufacturing methods. All of these factors are harmonious with the implants utilized in surgeries today. In fact, a large concentration of spinal implant products are manufactured using additive manufacturing and 3D printing technologies.

An interesting case study of additive manufacturing in the medical implant industry is NuVasive. NuVasive is a San Diego-based organization dedicated to bringing the most creative innovations in the medical device field to life. NuVasive's goal to become "the #1 spine technology company in the world" is being aided by the many benefits that additive manufacturing provides. The biomechanical properties of NuVasive's products are heightened by the increased accuracy and testing that come with additive.

Why is additive manufacturing experiencing such a meteoric rise in the medical world today? The answer is simple. Because there is a need for innovation. Due to COVID-19, the medical industry has booed in the past two years. Now, thanks to the far more rapid prototyping speeds that additive can provide manufacturers, the actual implants being made can be tested much more often. Also, the customization and precision that additive offers is a major factor in its upward trend in the medical industry. In an interview, president of Nexus Spine David Hawkes said, "Traditional machining has not created geometries that perfectly foster bone healing and long-term stability". Hawkes and his company are just one of many organizations in the spinal implant industry capitalizing on the benefits of additive.

While there are countless opportunities and benefits of additive manufacturing that can be applied to the medical industry, it is still in its adolescence in terms of being adopted as a mainstream method of manufacturing, according to Joash Sutherland of United Performance Metals. It is also relatively more expensive than traditional methods, so it should be noted that companies need to know when to use this technology and when to turn to traditional methods. At the bottom line, additive manufacturing technology will continue its upward trend and foster in waves of innovation for years to come. The medical industry will certainly be affected by these innovations and hopefully benefit in ways never thought of before. Source: Heather Tunstall, Bonezone, Photo: E-Plus-3D

## **Surcharge Totals July - December 2022**



	July	Aug	Sep	Oct	Nov	Dec
15-5	1.1863	0.9428	1.1041	1.1043	*	*
15-7	1.777	1.4584	1.5035	1.534	*	*
17-4	1.157	0.9196	1.1187	1.1194	*	*
17-7	1.5735	1.2406	1.2318	1.2299	*	*
201	1.2892	1.0305	1.0091	0.9963	*	*
301 7.0%	1.5539	1.2251	1.1991	1.1978	*	*
302/304/304L	1.7006	1.3419	1.3143	1.314	*	*
304-8.5%	1.7642	1.3923	1.3639	1.3639	*	*
305	2.2188	1.7533	1.7188	1.7214	*	*
309	2.287	1.8087	1.7753	1.7784	*	*
310	3.216	2.5465	2.5012	2.51	*	*
316/316L	2.2609	1.8431	1.7628	1.7951	*	*
316LS/316LV M	3.37	2.91	2.83	2.88	*	*
317L	2.5997	2.1413	2.0354	2.0847	*	*
321	1.8336	1.4457	1.4109	1.4079	*	*
347	2.1166	1.7358	1.7064	1.7068	*	*
409/409 Mod	0.5635	0.4357	0.4161	0.4058	*	*
410/410S	0.5569	0.4319	0.4166	0.4093	*	*
430	0.6445	0.5031	0.4893	0.4826	*	*
434	0.774	0.6274	0.5953	0.6004	*	*
439	0.6979	0.544	0.5239	0.5128	*	*
440A	0.6445	0.5031	0.4893	0.4826	*	*
2205	1.9635	1.6409	1.5896	1.6341	*	*
263	17.0102	17.888	16.37	15.0165	11.9584	10.7724
276	13.5654	14.0451	12.4194	11.0588	9.506	9.5601
A286	4.6872	4.9578	4.2697	3.7093	3.0669	3.1578
330	5.9745	6.2587	5.2845	4.5889	3.6909	3.8501
400	10.9344	11.42	9.5045	8.2954	6.6443	6.9718
Custom 455	1.93	1.64	1.61	1.58	*	*
Custom 465	2.45	2.09	2.05	2.05	*	*
600	11.7955	12.3716	10.3161	8.9053	7.3446	7.6239
601	10.0205	10.5005	8.8208	7.6205	6.1229	6.3546
617	15.4734	16.148	14.4168	13.0248	10.5673	10.019
625	13.3873	13.8411	12.1373	10.8391	9.6866	9.8369
Custom 630	1.64	1.42	1.37	1.31	*	*
718	11.8148	12.234	10.7918	9.7184	8.6636	8.8356
X-750	12.4025	13.0288	11.0237	9.5815	7.7941	8.0417
825	7.4606	7.8044	6.6992	5.8342	4.9306	5.0611
HX	9.8659	10.2434	8.8909	7.8235	6.7705	6.8404
188	21.8448	23.115	23.0095	22.247	17.6141	14.6262
CCM	30.39	23.83	20.26	21.15	*	*
L-605	23.6523	25.0684	25.3164	24.6902	19.4244	15.6932

<sup>\*</sup>Surcharge currently not available

# ARCH Medical Solutions Nets Two More Acquisitions; Diving into Additive Technology



ARCH Medical Solutions recently acquired two more companies, Amplify Additive and MedTorque. These acquisitions signal a dedication to innovation on ARCH's part, a dedication that will prove key in the coming years.

Amplify Additive claims to be "a leading expert in Orthopedics", which is ARCH Medical's most profound area of business. Amplify creates additive manufactured implant parts for spinal, craniomaxillofacial, total joint replacement, and traumarelated surgeries. Some of the most fascinating devices that Amplify manufactures are there spinal implants. These implants can treat "deformity, stabilize and strengthen the spine while facilitating fusion" (Amplify, 2022). Additionally, Amplify Additive utilizes biocompatible titanium in the production of their implants.

MedTorque, the other company acquired by ARCH, primarily creates devices that serve the medical instrument industry. The spinal instruments produced by this company are very effective in the rod management and disc prep processes. Other devices made by MedTorque include handles that accompany spinal instruments.

In an interview, Senior Vice President of Business Development for ARCH Medical Solutions, John Ruggieri, talked about what the increased investment in such innovative growth areas means for the medtech giant. "We are quite strong in machined metals and plastics, but have an ongoing interest in expansion toward highly functional and critical molded components and products...Additionally, we're continuing to pursue diversification in various medical device markets where we either do not participate today, or have only limited exposure and capabilities" (2022). Ruggieri also said that one of the reasons behind the acquisitions of companies like Amplify Additive and MedTorque is because "...our core competencies can be leveraged to provide differentiated manufacturing and support services " (2022). Surely, these two companies will set ARCH Medical Solutions up for a great future in the medtech industry. Source: Carolyn LaWell, BoneZone Magazine Photo: Adobe Stock



#### **UPM Medical Focus with Dennis Rahill**

At United Performance Metals, we pride ourselves on serving companies in the most innovative industries in their quest to change the world for the better. One way we achieve this mission is by serving the medical technologies industry. Dennis Rahill, our Business Development Manager for Medical Technologies, specifically implant technology, shared his thoughts and experience with this fascinating industry.

Mr. Rahill has worked in the medical technologies industry for much of his career. Speaking on his experience in the industry, Rahill stated, "I started in the medical industry, working with and selling to OEM customers. It fascinated me, as did the industry, and I've been working with medical technology ever since." Rahill began working at UPM in the past decade and loves that he is able to pro-

vide solutions to problems that his customers don't even realize they have. "We spend a lot of time and money so that we can add value to the material that are used in the products that our customers create." He also enjoys the fact that the materials he oversees and provides to customers are used in life-saving parts. "UPM and the employees should know our metal is used in life saving implants. The strength and precision of our materials are perfect for bone screws and bone plates in many parts of the body. These parts are instrumental in changing lives for many."

According to Rahill, the future of the medical technology industry lies in additive manufacturing and innovation. "MedTech growth is going to be strong for the next 20-30 years. People are starting to live longer, and engineers are developing robot technology that will allow for more accurate surgeries," Rahill stated. "Robotic surgeries will be able to increase the efficiency and the accuracy of many operations." With the increased efficiency and speed of prototyping that comes with additive manufacturing, many of the implants used in surgeries will prove to be much more durable and last much longer. "Many implant surgeries need to be reworked 40-50% of the time, but they keep finding better ways to do surgeries and implants. Additive will play a big part in this, specifically by making spine parts. Bones will accept additive parts faster, too," said Rahill. Contact United Performance Metals with your medical *Source: Dennis Rahill, United Performance Metals*.