United Performance Metals

January, 2019

UNITED PERFORMANCE METALS

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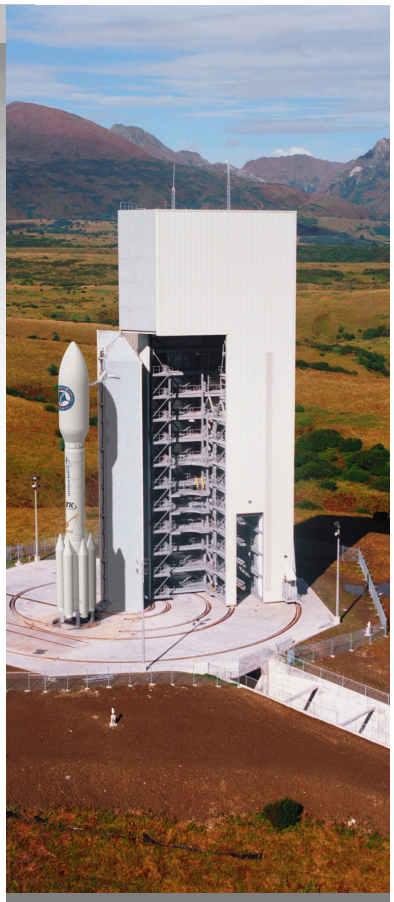

Alaska Spaceport Plans New Building as Demand Increases

The Alaska Aerospace Corporation plans to construct a temporary building to support launch operations at the spaceport on Kodiak Island. Officials solicited bids last month for the manufacture and delivery of materials to construct a 4,000-square-foot (372-square-meter) building at the Pacific Spaceport Complex, the Kodiak Daily Mirror reported Tuesday.

The new building will provide staff and customer personnel with shelter to "work on rockets and related hardware," said Mark Lester, the president of the corporation. The building is planned for the complex's Area 3, where several launch pads are located. The materials requested include a "pre-engineered system of standard metal framing components and membrane enclosure," according to the bid document.

The new construction is needed because the spaceport expects demand to increase, Lester said. "We are experiencing a renaissance in commercial and government interest in affordable access to space," Lester said. "Multiple rocket developers and integrators are planning on launching small rockets from the Pacific Spaceport Complex-Alaska at Kodiak in the upcoming years. This has prompted Alaska Aerospace Corporation to look at our operational capabilities to ensure we can meet anticipated demand."

The corporation is currently working with about six companies that are at various stages in preparing for launches, Lester said. He declined to name them. Astra Inc. is the only company currently licensed to launch from the Alaska spaceport, but Arizona-based Vector Launch Inc. has announced plans to test a rocket by the spring. "Due to the competitive nature of the commercial space launch market, most commercial companies are not willing to be identified at this time," Lester said. "This is not an uncommon practice for emerging technology programs. We expect this to change for companies that establish routine operations."

The spaceport is expecting 3 to 6 launches next year, but launch demand is anticipated to reach about 24 commercial launches annually. The spaceport is also expecting to have one to two government launches each year.

Source: The Wichita Eagle, The Associated Press

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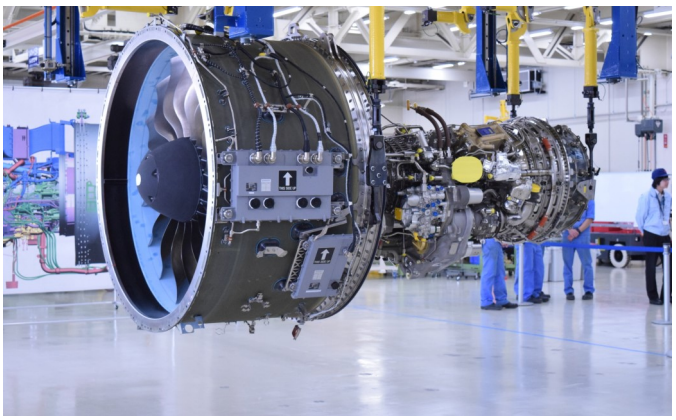
Production Milestone for Pratt & Whitney GTF™ PW1200G Engine at Mitsubishi Heavy Industries Aero Engines in Japan



Pratt & Whitney, a division of United Technologies Corp. and Mitsubishi Heavy Industries Aero Engines Ltd. (MHIAEL) recently achieved a significant production milestone on the Pratt & Whitney GTF PW1200G engine, powering the Mitsubishi Regional Jet (MRJ), Japan's first jet aircraft developed by Mitsubishi Aircraft Corporation. The first PW1200G engine assembly was completed at MHIAEL facility in Komaki, Japan, and successfully passed Pratt & Whitney's production acceptance test. The first engine produced at the facility is designated to be used in the MRJ flight test program. These are important accomplishments on the road to PW1200G production readiness.

"Thanks to extensive and close cooperation with Pratt & Whitney, MHIAEL is developing a facility in Komaki to perform final assembly of the PW1200G engine powering the MRJ," says Katsuyuki Shimauchi, President & CEO, Mitsubishi Heavy Industries Aero Engines, Ltd. "We're gearing up intensely as we prepare for production by building the capacities and expertise we need to perform this critical work. Our facility is in the process of obtaining approval from the U.S. Federal Aviation Administration to produce these engines."

The MHIAEL facility, located in Komaki, Japan, will be one of two production assembly and test sites for the PW1200G engine. The engine is also assembled and tested at Pratt & Whitney's Mirabel Aerospace Center in Canada. MHIAEL was established in 2014.

"The assembly and test of the first PW1200G engine at MHIAEL in Komaki is a key milestone for the PW1200G program," said Graham Webb, Vice President, Pratt & Whitney commercial engine programs. "We greatly appreciate our long-standing partnership and high level of collaboration with the MHI Group. Congratulations to the MHIAEL and Pratt & Whitney teams that ensured this achievement was successfully accomplished."

The MRJ is Mitsubishi Aircraft's next generation regional jet, powered exclusively by Pratt & Whitney GTF engines. The MRJ aircraft is currently flight testing and Mitsubishi Aircraft anticipates the first delivery in mid-2020. The GTF engine's geared fan architecture enables double digit reductions in fuel consumption, noise footprint and regulated emissions. Pratt & Whitney is investing more than $2.5 billion in 21st century manufacturing and aftermarket technology to transform its U.S. and global footprint. *Source: Pratt & Whitney*

Finland Provides a New Source for Cobalt

More than half of the world's cobalt comes from the Democratic Republic of the Congo (DRC). A 2017 USGS report described the DRC as a risky place for doing business and possessing a substantial risk of civil war. Cobalt ore from the DRC is typically shipped to China for processing to meet the growing demand for the material in the cathodes of lithium ion batteries, locking in a near-monopoly on these vital materials.

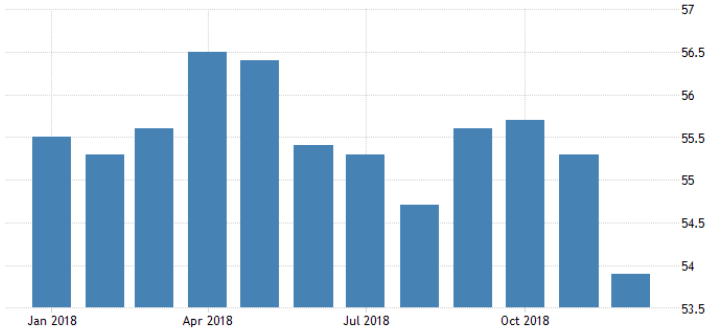
Now, chemical giant BASF has selected Harjavalta, Finland as its first production location to supply battery materials to the European automotive market. The plant will be constructed adjacent to the nickel and cobalt refinery owned by Norilsk Nickel (Nornickel). It will not only mine and process cobalt, but also develop nickel and cobalt containing cathodes for the expanding European electric vehicle (EV) market. *Continued on page 4*

US Factory Growth Lowest in Over a Year

The HIS Markit US Manufacturing PMI fell to 53.9 in December 2018 from 55.3 in November, below market expectations of 55.1. The reading pointed to the slowest expansion in factory activity since November of 2017, as new orders and employment rose at a slower pace, preliminary estimates showed. Also, the near-term outlook has become less favorable.

The fall in the headline PMI mainly reflected weaker contributions from new orders and employment growth at the end of the year. The rate of manufacturing job creation was the softest since August 2017. More cautious staff hiring policies were partly due to a drop in business optimism to its lowest for 26 months, which a number of firms attributed to concerns about the outlook for the global economy. Some firms also commented on pressure on operating margins following a sustained period of rising raw material costs.

On the other hand, manufacturing production volumes increased solidly in December, with the rate of expansion unchanged since the previous month. *Source: Markit, Joana Taborda*



Great Lakes Steel Production Shoots Up By 32,000 Tons

Great Lakes steel production rose to 726,000 tons last week, a surge of 4.6 percent. Steel mills in the Great Lakes region made 694,000 tons of metal the previous week, according to the American Iron and Steel Institute. Most of the steel made in the Great Lakes region is produced around the southern shore of Lake Michigan in Lake and Porter counties. Overall, domestic steel mills made 1.89 million tons of metal last week, up from the 1.876 million tons made the previous week.

U.S. steel mills have run at a capacity utilization rate of 78.2 percent this year, up from 74 percent at the same point in 2017, according to the AISI. Domestic steelmakers used about 80.6 percent of their steelmaking capacity in the week that ended Dec. 15, up from 71.9 percent at the same time a year ago and up from 80 percent a week prior, according to the American Iron and Steel Institute.

Some analysts say steel-making capacity utilization of about 90 percent is considered financially healthy for the industry, at least for the larger integrated mills like those around Lake Michigan in Northwest Indiana, because of their high fixed operating costs. But the capacity utilization rate has been significantly higher this year than during a downturn in the steel industry several years ago.

Nationally, as 25 percent Section 232 tariffs make imports more expensive, steel output is up by 6 percent this year, according to the American Iron and Steel Institute, a 0.1 percent increase as compared to the past week and at least the 16th straight week of increase.

Production in the Southern district, a wide geographic swath that includes many mini mills, dropped to 676,000 tons last week, down from 680,000 tons the previous week. Steel output in the greater Midwest stayed steady at 191,000 tons last week. *Source: nwi.com, Joseph S. Pete*

Continued from page 2

"The co-location of BASF's new plant and Nornickel's metal refinery in Harjavalta will enable unparalleled access to a local nickel and cobalt supply," said Jeffrey Lou, senior vice president, battery materials at BASF, in a company press release. "Our high-nickel cathode materials are key to delivering enhanced energy density and vehicle range to our customers. With this world-scale production facility, BASF will be able to serve the European e-mobility growth strategies of key OEMs and cell suppliers with reliable supply and close collaboration."

The investment is part of a BASF €400 million ($462 million USD) plan that was announced last year. It builds upon the initial battery-grade cobalt production that started in Harjavalta in 2018. Currently, about 3% of the world's cobalt production comes from Finland. Start-up for the new plant is planned for late 2020 and will enable the supply of 300,000 battery-electric vehicles per year. The BASF plant in Harjavalta also will use locally generated renewable energy sources, such as hydroelectric, wind, and biomass, addressing recent reports that present-day lithium ion battery production plants are fossil-fuel intensive.

Source: Design News

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Surcharge Totals October 2018 - March 2019

	Oct	Nov	Dec	Jan	Feb	Mar
15-5	0.5229	0.5286	0.5139	0.4790	*	*
15-7	0.7808	0.7753	0.7487	0.7039	*	*
17-4	0.5165	0.5231	0.5107	0.4767	*	*
17-7	0.6219	0.6197	0.5873	0.5321	*	*
201	0.5178	0.5169	0.4968	0.4543	*	*
301 7.0%	0.6159	0.6139	0.5825	0.5277	*	*
302/304/304L	0.6700	0.6666	0.6303	0.5697	*	*
304-8.5%	0.6922	0.6883	0.6494	0.5867	*	*
305	0.8523	0.8447	0.7884	0.7097	*	*
309	0.8864	0.8781	0.8215	0.7378	*	*
310	1.2164	1.2002	1.1087	0.9920	*	*
316/316L	0.9556	0.9460	0.9018	0.8389	*	*
316LS/316LVM	1.2400	1.2200	1.1400	*	*	*
317L	1.1275	1.1142	1.0660	0.9976	*	*
321	0.7043	0.7001	0.6588	0.5953	*	*
347	1.0139	1.0097	0.9684	0.9049	*	*
409/409 Mod	0.2443	0.2508	0.2547	0.2392	*	*
410/410S	0.2519	0.2582	0.2621	0.2456	*	*
430	0.2957	0.3011	0.3047	0.2816	*	*
434	0.3768	0.3805	0.3849	0.3631	*	*
439	0.3050	0.3102	0.3138	0.2893	*	*
440A	0.2957	0.3011	0.3047	0.2816	*	*
2205	0.9167	0.9083	0.8882	0.8389	*	*
263	11.6936	10.8405	9.7101	9.0419	9.0396	8.7744
276	6.0286	5.6411	5.6731	5.3623	5.2863	4.9542
A286	1.7822	1.6116	1.5740	1.4268	1.4048	1.2671
330	2.2611	2.0116	1.9460	1.7418	1.7080	1.5083
400	4.1032	3.5365	3.3883	3.0746	3.0360	2.6645
455	0.6900	0.6800	0.6200	*	*	*
465	0.8500	0.8300	0.7700	*	*	*
600	4.3656	3.8412	3.7080	3.3263	3.2486	2.8281
601	3.7825	3.3532	3.2436	2.9116	2.8487	2.5046
617	8.8917	8.2215	7.6141	7.0881	7.0476	6.7235
625	6.3487	5.9410	5.9070	5.5805	5.5100	5.1717
718	6.0499	5.6919	5.6263	5.3430	5.2874	4.9963
X-750	4.9101	4.4003	4.2708	3.8974	3.8219	3.4131
825	2.9375	2.6616	2.6159	2.3896	2.3497	2.1291
HX	4.1715	3.8391	3.7980	3.5220	3.4674	3.2009
188	16.1600	16.3800	15.0800	*	*	*
CCM	25.1000	25.5700	26.3400	*	*	*
L-605	19.5400	19.8400	18.3100	*	*	*

*Surcharge currently not available