



The UPM Market Informer

Monthly Intelligence for Customers of United Performance Metals

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PRATT & WHITNEY UNVEILS ENGINEERING, TECHNOLOGY CENTER



Commercial and military jet engine manufacturer Pratt & Whitney, a division of United Technologies Corp., formally opened its new Engineering and Technology Center in the heart of its East Hartford, Connecticut, campus. Hundreds of people were on-hand for the ribbon cutting and grand opening ceremony, including Pratt & Whitney President Robert Leduc, Connecticut Gov. Dannel P. Malloy, U.S. Congressman John B. Larson (1st District), and U.S. Congressman Joe Courtney (2nd District).

The new state-of-the-art building features 425,000ft² of space and will accommodate up to 1,750 Pratt & Whitney employees. It was enabled through a collaboration with the State of Connecticut through the 2014 Connecticut Aerospace Reinvestment Act (CARA). The facility will serve as a global engineering headquarters for the design of Pratt & Whitney's PurePower commercial and F135 military aircraft engines.

"This new facility that we dedicate today becomes the nerve center of Pratt & Whitney's continued excellence and global leadership in the design of the finest commercial and military engines in the world," Leduc said. "We are attracting top engineering talent who will keep Pratt & Whitney on the leading edge of aviation technology for decades to come."

The traditional ceremonial ribbon cutting was taken to new lengths, with the ribbon literally encircling the building, held by hundreds of Pratt & Whitney employees and their families, including Maureen LeClair and Robert Gilbert, who recently celebrated their 54th and 55th years with the company, respectively. The Pratt & Whitney Engineering and Technology Center is being considered for LEED Gold Certification with the U.S. Green Building Council.

Pratt & Whitney received PurePower Geared Turbofan (GTF) engine orders from Vietnam Airlines and VietJet Air at a ceremony attended by U.S. President Donald Trump during his visit to Hanoi for the APEC 2017. The GTF engines will power 20 A321neo Airbus aircraft. For Vietnam Airlines, the deal, valued at \$1.5 billion at list prices, includes a 12-year EngineWise Fleet Management Program.

A further GTF engine order valued at \$600 million at list prices will power 10 new VietJet aircraft. This deal also includes a 12-year EngineWise Fleet Management Program. The order follows a February 2016 contract signing for GTF engines to power 63 VietJet aircraft. *Source: Aerospace Manufacturing and Design*

U.S. THIRD QUARTER ECONOMIC GROWTH FASTEST IN THREE YEARS

The U.S. economy grew faster than initially thought in the third quarter, notching its quickest pace in three years, buoyed by robust business spending on equipment and an accumulation of inventories. Gross domestic product expanded at a 3.3% annual rate last quarter also boosted by a rebound in government investment, the Commerce Department said in its second GDP estimate on Wednesday. That was the fastest pace since the third quarter of 2014 and a pickup from the second quarter's 3.1% rate.



The economy was previously reported to have grown at a 3.0% pace in the July-September period. It was the first time since 2014 that the economy experienced growth of 3% or more for two straight quarters. The growth pace, however, likely exaggerates the health of the economy as inventories, goods yet to be sold, accounted for nearly a quarter of GDP growth. Excluding inventory investment, the economy grew at a 2.5% rate.

When measured from the income side, output also expanded at a 2.5% rate. Economists had expected that third-quarter GDP growth would be raised to

a 3.2% rate. The brisk growth pace strengthens the case for the Federal Reserve to raise interest rates next month. The U.S. central bank has increased borrowing costs twice this year. Fed Chair Janet Yellen told lawmakers on Wednesday “the economic expansion is increasingly broad based across sectors,” and that she expected that “the economy will continue to expand.”

Prices for U.S. Treasuries were trading lower, while the dollar was little changed against a basket of currencies. U.S. stocks were mixed. The economic recovery since the 2007-2009 recession is now in its eighth year and showing little signs of fatigue. The economy is being powered by a tightening labor market, which has largely maintained a strong performance that started during former President Barack Obama's first term. Economists see a modest boost to growth from efforts by President Donald Trump and his fellow Republicans in Congress to push through a broad package of tax cuts, including slashing the corporate income tax rate to 20% from 35%. Trump wants lower taxes to lift annual GDP growth to 3% on a sustained basis. The fiscal stimulus would, however, come when the economy is at full employment. “Corporate and personal income tax cuts will have minimal impact on growth over the longer run,” said Gus Faucher, chief economist at PNC Financial in Pittsburgh. “In 2019 and beyond growth will settle in to its long-run average of 2% to 2.25%.”

The government said after-tax corporate profits surged at a 5.8% rate last quarter after rising at only a 0.1% pace in the second quarter. Undistributed profits jumped at a 13.9% rate after declining for two straight quarters, suggesting that companies were anticipating deep tax cuts. Businesses accumulated inventories at a \$39.0 billion pace in the third quarter, instead of the previously reported \$35.8 billion rate. As a result, inventory investment contributed 0.8 percentage point to third-quarter GDP growth, up from the previously reported 0.73 percentage point. That suggests inventories could be a drag on growth in the fourth quarter. Data on Tuesday showed a drop in wholesale and retail inventories in October, leading economists to slash their fourth-quarter GDP growth estimates by as much as five-tenths of a percentage point to as low as a 2.3% rate.

Growth in consumer spending, which accounts for more than two-thirds of the U.S. economy, was revised down to a 2.3% rate in the third quarter from the previously reported 2.4% pace. Consumer spending increased at a robust 3.3% rate in the second quarter. The deceleration in consumer spending likely reflects the impact of Hurricanes Harvey and Irma, which struck Texas and Florida during the third quarter. Spending also is being constrained by sluggish wage growth, which is forcing households to dip into their savings to fund purchases. The government cut its estimate for the increase in second-quarter wages and salaries by \$26.5 billion. The saving rate decreased to 3.3% in the third quarter from 3.7% in the April-June period. Economists say savings cannot drive consumer spending indefinitely. But they also believe that income growth is being understated, pointing to a 4.1% unemployment rate as well as strong business investment.

Growth in business investment in equipment was raised to a 10.4% pace, the fastest growth pace in three years, from the previously reported 8.6% rate. Businesses also increased spending on software. But investment in nonresidential structures fell at a 6.8% pace in the third quarter, the biggest drop since the fourth quarter of 2015, instead of the previously estimated 5.2% rate. That is largely because of a slowdown in spending on mining exploration, wells and shafts.

Growth in government spending was raised to a 0.4% rate. Government outlays were previously reported to have declined at a 0.1% pace in the third quarter. Government spending had contracted for two consecutive quarters. *Source: Reuters*

**VIETNAM AIRLINES AND
PRATT & WHITNEY
ANNOUNCE SELECTION
OF PUREPOWER
GEARED TURBOFAN
ENGINE FOR A321neo
AIRCRAFT ORDER**

Pratt & Whitney, a division of United Technologies Corp. (NYSE: UTX), and Vietnam Airlines gathered today for a signing ceremony announcing the selection of the PurePower Geared Turbofan (GTF) engine to power 20 A321neo Airbus aircraft. The deal, which is valued at \$1.5 billion at list prices, includes a 12-year EngineWise™ Fleet Management Program.

The event was hosted during a commercial signing ceremony in Vietnam's capital, Hanoi, attended by U.S. President Donald Trump and Mr. Trần Đại Quang, President of the Socialist Republic of Vietnam, along with Vietnam Airlines and Pratt & Whitney officials.

"We are pleased to select the GTF engine for our fleet of A321neo aircraft," said Dương Trí Thành, president and CEO at Vietnam Airlines. "This engine will deliver superior economic and environmental performance to Vietnam Airlines."

"We are proud to celebrate this momentous occasion with Vietnam Airlines," said Rick Deurloo, senior vice president of sales, marketing and customer support at Pratt & Whitney. "We've been powering Vietnam Airlines since the early 1990s when the airline received its first PW4000-powered 767. We look forward to continuing our strong relationship and long history with Vietnam Airlines."

Since entering into service in early 2016, the GTF engine has demonstrated its promised ability to reduce fuel burn by 16 percent, regulated emissions by 50 percent and noise footprint by 75 percent.



**Surcharge Totals
Sept 2017—Feb 2018**

Grades	Sep	Oct	Nov	Dec	Jan	Feb
15-5	0.4123	0.4906	0.4642	0.4931	*	*
15-7	0.5387	0.6427	0.6040	0.6391	*	*
17-4	0.4118	0.4911	0.4665	0.4929	*	*
17-7	0.4599	0.5685	0.5304	0.5714	*	*
201	0.4015	0.4882	0.4618	0.4840	*	*
301 7.0%	0.4561	0.5644	0.5270	0.5667	*	*
302/304/304L	0.4948	0.6136	0.5731	0.6191	*	*
304-8.5%	0.5103	0.6326	0.5904	0.6293	*	*
305	0.6224	0.7711	0.7176	0.7883	*	*
309	0.6502	0.8111	0.7581	0.8290	*	*
310	0.8823	1.0993	1.0237	1.1380	*	*
316/316L	0.6627	0.7982	0.7485	0.8054	*	*
316LS/316LVM	0.9800	1.0400	1.0200	*	*	*
317L	0.7703	0.9246	0.8707	0.9333	*	*
321	0.5175	0.6399	0.5960	0.6481	*	*
347	0.7850	0.9074	0.8636	0.9578	*	*
409/409 Mod	0.1900	0.2274	0.2119	0.2080	*	*
410/410S	0.1962	0.2362	0.2207	0.2169	*	*
430	0.2319	0.2876	0.2729	0.2693	*	*
434	0.2776	0.3369	0.3213	0.3172	*	*
439	0.2394	0.2986	0.2842	0.2806	*	*
440A	0.2319	0.2876	0.2729	0.2693	*	*
2205	0.6308	0.7588	0.7249	0.7519	*	*
263	6.3011	6.4416	6.9385	7.2440	7.3977	7.4595
276	3.2610	2.9147	3.0924	3.7369	4.0000	4.1660
A286	0.8605	0.7448	0.8173	1.0129	1.1153	1.1137
330	1.0275	0.8905	0.9940	1.2534	1.3875	1.3971
400	1.6642	1.6041	1.8355	2.3819	2.5286	2.5921
455	0.6000	0.6200	0.6300	*	*	*
465	0.6900	0.7300	0.7300	*	*	*
600	1.8577	1.6881	1.9040	2.4417	2.6449	2.6794
601	1.7311	1.5343	1.7112	2.1522	2.3569	2.3837
617	4.7794	4.6961	5.0551	5.5215	5.7249	5.7558
625	3.8758	3.5821	3.7601	4.3039	4.5371	4.5376
718	3.9151	3.7080	3.8595	4.2751	4.4623	4.4733
X-750	2.4328	2.2612	2.4711	2.9940	3.1960	3.2293
825	1.4758	1.2810	1.3987	1.7295	1.8948	1.8995
HX	2.1712	1.9096	2.0604	2.5118	2.7158	2.7218
188	13.1500	13.6100	13.7700	*	*	*
CCM	21.7900	22.2000	22.7200	*	*	*
L-605	16.1600	16.6200	16.8000	*	*	*

*Surcharge currently not available



LEONARDO PREPARATIONS FOR ALABAMA T-100 AIRCRAFT FACTORY ON TRACK

Executives of aerospace company Leonardo told an Alabama delegation touring an aircraft facility in Italy that preparations for a manufacturing operation in Tuskegee are on track to provide the T-100 next-generation jet trainer for the U.S. Air Force. Leonardo invited the Alabama team, led by Commerce Secretary Greg Canfield, to the Venegono Superiore factory for a detailed look at how the

company manufactures an advanced trainer aircraft similar to the T-100 that is already in service in three countries. On Wednesday, executives of Leonardo and its partners provided the Alabama group with an update on the T-100 project, which calls for the construction of a state-of-the-art manufacturing facility with 750 workers at Moton Field, the historic home of the Tuskegee Airmen.

Guido Sibona, head of industrial engineering for the Leonardo Aircraft Division, outlined a series of project milestones leading up to the beginning of initial production in Tuskegee in 2022 if the Air Force selects the T-100 to replace its fleet of aging T-38 trainers. The Air Force decision is expected in March 2018. "We have a strong plan to transition production over to the U.S.," Sibona told the Alabama group.

According to this timeline, construction at the Moton Field site would begin in July 2018, with final completion of the production campus coming in 2021. Hiring for the Alabama manufacturing facility would commence near the start of 2020, with low-rate production of T-100 aircraft beginning there two years later, Sibona said. "It's really an opportunity to rekindle history in an area of our state that is known for breaking new ground and for breaking the color barrier, while setting high standards for performance."

Full-scale production is expected to begin in 2023. Leonardo's Venegono Superiore 300,000-square-meter manufacturing complex specializes in the production of military training aircraft, including the M-346, which will serve as the basis for the T-100. A new trainer, the M-345, is under development there, and the facility hosts a ground-based integrated flight training system laboratory. "This is really the place for training aircraft in Italy, and I think the most important site for training aircraft in the world," Francesco Bernardi, head of business development and strategy for the Leonardo Aircraft Division. *Source: Made in Alabama*

UNITED PERFORMANCE METALS' CONNECTICUT FACILITY GROWS

Specialty metals distributor, United Performance Metals (UPM) has announced the expansion of its Connecticut facility. An additional 10,000 square feet will be adjoined to the current building bringing the total square footage to 58,000 at this northeast location. UPM currently operates 9 locations worldwide which support the aerospace, fastener, medical, power generation, oil and gas, and semiconductor markets.

