

### URAL BOEING VENTURE STARTS TITANIUM WORK

Boeing Co. and VSMPO-Avisma have launched production of semi-finished titanium products for the Boeing 787 as part of a joint venture formed in 2007—Ural Boeing Manufacturing (UBM).

Construction of a \$70 million plant to serve the venture was started in 2007. Since then, the team has completed building the new facility and installing high-tech milling machines and tools. Although both sides initially started from equal participation in the project, Boeing has received clearance to increase its share to as much as 69.5% from Russia's Federal Anti-Monopoly Service.



UBM is to perform initial machining of forgings provided by VSMPO's titanium mill. Boeing's Portland, Oregon, plant and other machining subcontractors will finish titanium parts manufacturing. This new facility in Russia is expected to reach full production rate next year.

VSMPO-Avisma already has been exporting almost 70% of its products to Airbus and Boeing, as well as some other aerospace companies. In 2007, VSMPO produced 27,500 metric tons of titanium. A 66% share of the manufacturer is controlled by the Russian Technologies State Corporation, a state-owned holding company, which is consolidating the country's high-technology and defense industry segments.

[Details](#)

### BRIEFING: AUSTRALIAN TITANIUM AND THE JOINT STRIKE FIGHTER

The Australian government is encouraging titanium ore producers and research and development (R&D) organisations to find solutions that would enable domestic defence industries to produce titanium parts for F-35 Joint Strike Fighters (JSFs) across the globe. Australia has 40 per cent of the world's titanium ore resources, according to government statistics, but faces several production challenges in order to meet the JSF and wider military aerospace requirements.

The economic benefits, however, could be significant should these challenges be overcome. The value of contracts related to titanium production for the JSF produced in Australia could total AUD60 million (USD47 million) and potentially billions of dollars on future global contracts. [Details](#)



### VIETNAM'S LARGEST TITANIUM PLANT OPENS

Vietnam's largest titanium plant opened in Binh Dinh Province to supply the local market with 60,000 tons of titanium and 30,000 tons of steel a year.

The plant, developed by Saigon Quy Nhon Mineral Joint Stock Company on 10 hectares in the town of Quy Nhon's Phu My District, has an investment capital of VND1 trillion, or US\$55 million. Half of the investment has been spent in the first phase, in which two of the facility's five furnaces have been installed, said the company.

Dang Thi Hoang Phuong, the company's chairwoman, said the plant was equipped with the most modern technology in Vietnam and would exploit titanium ore for export and to meet increasing demand on the local market.

Phuong said the plant would manufacture other titanium products like dioxide and other compounds in later phases.

The plant, which employs 500 local workers, will supply 24,000 tons of titanium and 12,000 tons of high intensity steel a year in the first phase, according to the company, an affiliate of Saigon Investment Group, which specializes in industry parks, energy, construction and tourism. [Details](#)

## **FRONTLINE AUSTRALIA TO DEVELOP COLD SPRAY PLANT FOR TITANIUM ALLOY PIPES**

FRONTLINE Australia has been offered a grant of \$1,222,371 in the third round of the Climate Ready program to develop a cold spray pilot plant producing titanium alloy pipe.

Frontline Australia's project aims to develop a continuous cold spray pilot plant for the production of seamless titanium alloy tubing and pipe.

According to Frontline Australia the cold spray process uses a high pressure and high velocity gas to apply a number of fine coatings of titanium and alloy powder composition particles onto a mandrel. Unlike the alternative Kroll process, which uses metal, cold spray uses titanium powder, resulting in a 30% reduction in energy usage. [Details](#)

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## **TITANIUM PRODUCTION**

South Yorkshire-based Metalysis is leading a £1.8m effort to develop mass production methods for high-purity titanium.

The company, which develops technology for the speciality metals industry, has secured an £862,000 grant from the Technology Strategy Board (TSB) to scale up its technology for the production of titanium powders.

Metalysis owns the global IP and commercial exploitation rights to the process, known as FFC. The company's partners in the effort include Newcastle University, the Advanced Manufacturing Research Centre at Sheffield University and TWI. This public- and private-sector collaboration will design, develop and commission Metalysis's semi-continuous production plant to provide a consistent high-purity product at a commercially viable price. The plant is due to be commissioned within eight months, after which powder consolidation and characterisation trials will commence on the titanium produced. The entire project will last for two years. [Details](#)

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## **TOUGHER ALLOYS FOR TITANIUM TANKS**

Military vehicles could be armoured with titanium alloys better able to withstand bullets and explosions in the future. The tougher material is the intended result of research being conducted by Prof Wei Sha at Queen's University's School of Planning, Architecture and Civil Engineering. Sha is developing computer models that will reveal the reasons why titanium deforms and retains damage from strong impacts and fast applied forces. Such compression on the metal can happen when it is hit by bullets or explosives.

In this occurrence the temperature inside the alloy can heat up to several hundred degrees through heat generated by deformation. Sha has discovered that titanium, like other metals, can be weakened by such forces and elevated temperatures. If these alloys are damaged they can endanger the lives of those relying on their protection.

'If we can understand how the metal will deform under impact loading then we can control the damage to the finished product,' he said.

Sha's computer models will be based on metallurgy theory, hoped to provide a greater understanding of the material at the atomic scale. Such models, Sha said, will not only help to improve finished titanium products, but will also improve manufacturing processes. [Details](#)

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## **TOHO TITANIUM MAY MISS PROFIT TARGET**

Toho Titanium Co., Asia's second- largest producer, may post a full-year loss, missing its profit target on the delayed recovery of demand from plant builders, the company's president said. "We had predicted we would see a recovery in the second half, but the outlook is unclear now," President Takeshi Kurushima said in an interview. "There's a risk the company will fall into red ink this fiscal year." It would be the company's first annual loss in more than a decade, according to data compiled by Bloomberg. A recovery in demand for titanium used in water desalination plants and liquefied natural gas plants won't likely come until next fiscal year, after stalled construction projects in the Middle East are restarted, said Kurushima.

Renewed demand from some industrial customers may also come later than expected, he said.

Boeing Co. said this week a new schedule for delivery of its 787 Dreamliner, which uses the lightweight and strong material, is still not set after the company last month postponed the plane's first flight to reinforce sections along the wing.

Kurushima now forecasts the global titanium market will recover from 2011, about six months later than he projected in February. [Details](#)

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