## **Boeing, South Africa to Research & Develop Titanium Powder for Manufacturing**

## Research supports South African industry, could expand titanium supply for aerospace

PRETORIA, South Africa, June 11, 2013 – Boeing [NYSE: BA] and South Africa's Council for Scientific and Industrial Research (CSIR) announced today that they will conduct joint research on ways to incorporate titanium powder into industrial manufacturing processes. This mutually beneficial research collaboration supports South Africa's long-term economic development and could expand the supply of titanium for many industries, including aerospace.

South Africa, which has the world's second-largest reserves of titanium ore, has developed and patented technology to convert titanium ore to titanium powder. On June 7, CSIR launched a titanium pilot plant to further advance titanium powder technology. Aligned with that objective, Boeing and CSIR signed a memorandum of understanding to collaborate on processes that could bring titanium powder-based products to commercial markets on an industrial scale and improve the efficiency of titanium manufacturing.

Dr. William Lyons, Boeing Research & Technology director of Global Technology, said Boeing's research with CSIR will advance the science of a promising technology. "This research is important to the aviation industry because it will enable us to use titanium powder for manufacturing in ways that reduce energy consumption and waste," Lyons said.

Dr. Willie du Preez, director of the South African Titanium Centre of Competence, hosted by CSIR, said the collaboration with Boeing will bring value to South Africa. "Boeing's competencies and experience regarding the applications of titanium in aerospace will hugely benefit CSIR's drive towards commercialization of titanium technologies" said Du Preez.

J. Miguel Santos, Boeing International vice president for Africa, said the company is pleased to broaden its relationships in South Africa. "Our research and development agreement with CSIR adds a new dimension to Boeing engagement in South Africa," Santos said. "We are collaborating to advance South Africa's development in the aviation industry, which will increase the competitiveness of Boeing products."

Boeing Research & Technology (BR&T) will oversee the company's research activity in South Africa. As Boeing's advanced research and development organization, BR&T is focused on developing future aerospace solutions and improving the cycle time, cost, quality and performance of current aerospace systems. BR&T conducts its own research and works with partners around the world to find technologies that are innovative and affordable.

Boeing and South Africa have a relationship focused on development of South Africa's aviation industry. Boeing customer relationships include South African Airways and its LCC subsidiary Mango Airline and Comair/Kulula. Boeing's South African suppliers include Aerosud (PTY) Ltd., and the company has a partnership with 43 Air School, a National Airways Corporation subsidiary to provide pilot training.

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