THE BOEING COMPANY–SUPPLIER
RISK WITHIN BOEING'S RAW MATERIAL STRATEGY

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The Boeing Company (Boeing) is the world's largest aerospace company and the leading manufacturer of commercial airplanes and defense, space, and security systems. The company supports airlines and government customers in 150 countries.

Our project was focused on Boeing Commercial Airplanes (BCA), which designs and manufactures both single-aisle and twin-aisle commercial airplanes and cargo freighters. There are more than 10,000 Boeing-built commercial jetliners in service worldwide, which is almost half of the world's fleet. With growing demand for air travel, Boeing is increasing production rates to unprecedented levels. To support these increased rates, Boeing relies on suppliers to deliver millions of parts on time and at an acceptable quality in order to assemble its airplanes for on-time delivery. If one structural part is missing the plane cannot be delivered to the final customer and placed into service. This makes assessing risk within the supply chain a critical part of Boeing's strategy.

Aluminum and titanium, in particular, are two critical materials in airplane manufacturing for two reasons: (1) parts made from aluminum and titanium make up significant portions of an airplane and (2) raw material production is a single point of failure in the supply chain. If there is a shortage of aluminum or titanium, Boeing and its suppliers cannot get the material they need to produce their parts, which means Boeing cannot build its airplanes. This could in turn affect airlines' ability to transport people and businesses around the globe.

To address these concerns, the Tauber Team performed a risk analysis of the aluminum and titanium mills in order to re-architect the risk assessment process. After discovering that there is a low likelihood of a mill disruption, the team reduced the number of areas of analysis in the risk assessment by 72% and modified the question to better align with mill risks. Since it was determined there was minimal risk with mill production, the team decided to broaden the scope of the project to identify other opportunities for improvement in the rest of the raw material strategy. The student team identified areas that contained costly risks to Boeing, including forecasting errors and distributor capacity constraints. In addition, the team discovered an area of opportunity for increased savings with titanium scrap recycling. By improving these select areas, Boeing can expect cost savings of millions of dollars per year.