From Titanium Valley to 30,000 Feet: RSSBus Fuses Boeing Innovation & China's Titanium Powerhouse

Boeing is the biggest aviation manufacturer in the world, valued at more than $209 billion. With more than 141,000 employees worldwide, Boeing builds a commercial plane every 11 hours and even plans to send humans to Mars on the back of 207,000 Corvettes worth of raw thrusting power. With all that production, Boeing needs one of the largest, most reliable supply networks in the world.

China's BaoTi Group is a Core Part of Boeing's Supply Network

Located in the heart of Titanium Valley in Baoji, China, BaoTi Group is China's powerhouse producer of titanium and titanium alloys. Founded in 1965, BaoTi produces more than 40 percent of China's titanium-based materials and is China's largest R&D base for rare metals. Its unique, end-to-end supply chain runs deep into the Earth, on factory lines and across the globe, spanning: mining of titanium sponge materials, smelting, processing & deep processing, equipment design & manufacturing and worldwide distribution. In addition to its titanium-based supply chain, companies worldwide rely on BaoTi Group for:

- Zirconium
- Tantalum
- And special, rare-Earth metals

Today, BaoTi has earned its place as a key supplier to the aerospace industry and US manufacturer, Boeing, delivering core materials for Boeing's manufacturing processes.

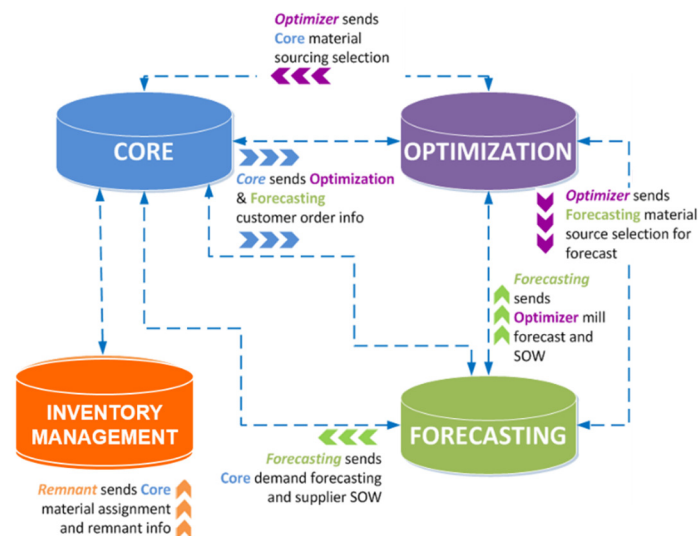# The Challenge: Supplier-Side Economics and The Boeing Raw Material Strategy

Boeing's supply chain spans thousands of vendors across the globe and involves millions of messages, purchase orders, shipments, invoices and other transactions. Boeing needs a gargantuan IT infrastructure, and in today's global, Just-In-Time manufacturing economy, that IT infrastructure must deliver instant, seamless connectivity with their supply chain, while minimizing time spent onboarding vendors.

So Boeing undertook the Boeing Raw Material Strategy (BRMS), an initiative designed to overhaul and streamline its deep ocean of purchasing transactions, data, and technology.

As part of the BRMS, the aviation giant has invested in a key piece of technology: their Raw Material Aggregation System (RMAS), which simplifies its purchases of raw materials — including BaoTi's titanium. The RMAS spans a set of integrated systems that manage the acquisition and distribution of their raw material supply chain to minimize delivery costs and contains four key parts:

- Core Enterprise Resource Planning (ERP) software system that handles order fulfillment
- Forecasting
- Optimization
- Inventory Management

The diagram below shows how these key components interact. When taken together, Boeing's strategy and RMAS have had major ramifications for BaoTi, which needed to align its technology and supply chain with Boeing's ERP to grow its crucial customer relationship.

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The Solution: Standardizing with an Electronic Data Interchange

To streamline its supply chain integration with Boeing, BaoTi sought to integrate its electronic order and fulfillment processing with Boeing's electronic data interchange (EDI) system.

So BaoTi chose RSSBus Connect to implement an EDI process that could easily integrate with BaoTi's existing IT infrastructure.

Since its release in 2004, the RSSBus Connect platform has been adopted by numerous system integrators, independent software vendors, and large enterprises to rapidly develop EDI solutions at low cost. RSSBus Connect silently powers tens of thousands of supply chain systems behind the scenes.

BaoTi uses RSSBus Connect to securely send and receive Boeing EDI X12 purchase orders, messages and acknowledgments. The best part? BaoTi's team can use basic spreadsheets to do it — no programming or manual translation required. RSSBus Connect ensures they can efficiently interface with Boeing's EDI to meet Boeing's standards for world-class suppliers.
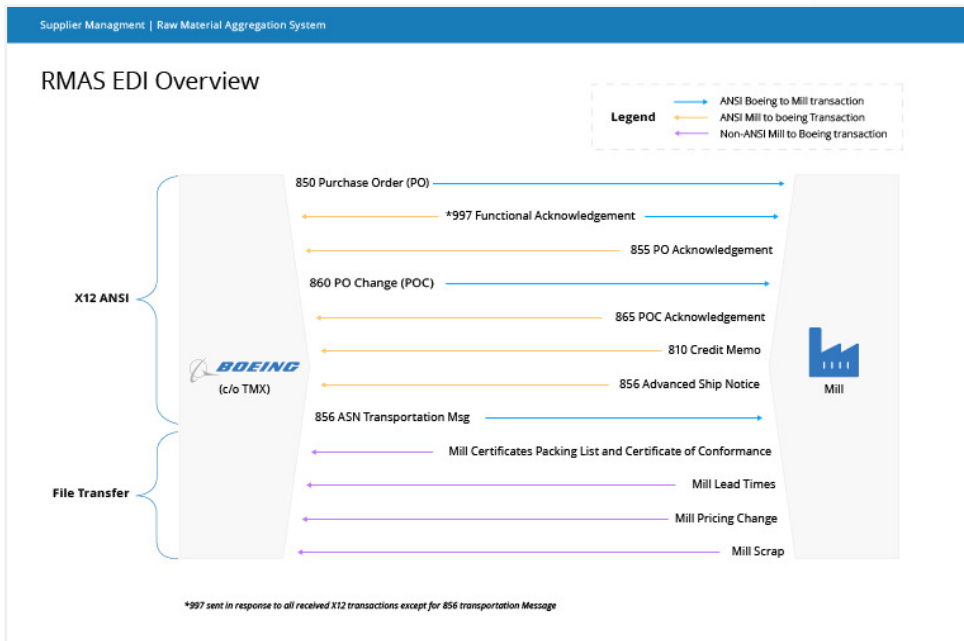
Integration with Boeing

BaoTi uses RSSBus Connect for secure file transfer (via an AS2 connector), EDI messaging and spreadsheet integration.

Secure File Transfer

Boeing requires suppliers to communicate via an SFTP connector (port). The RSSBus SFTP connector is configured to securely send and receive documents directly with Boeing. In addition to offering the highest security and most responsiveness, direct integration eliminates the need for costly VAN processing. BaoTi uses our SFTP port for secure file transfer, the X12 port and the Script/Excel port for integration.

EDI Messaging

For order processing and fulfillment Boeing requires BaoTi to communicate through a number of standard EDI messages. To do so, Boeing uses the DataToXMLI X12 Port of RSSBus Connect to transform data between spreadsheet values and EDI standards, as illustrated by this diagram:

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RSSBus Connect provides BaoTi an easy way to create Excel-based reports from EDI Files through RSSBus Connect ports. BaoTi uses the X12 port to transform data between EDI and standard XML. Then, using the Excel port, they can transform data from standard XML to easy-to-read spreadsheets. Last, they use the Email Send port to send a spreadsheet to BaoTi's email address, seamlessly receiving human-usable Excel spreadsheets right in their inbox.

To communicate updates to Boeing, BaoTi's team can simply manage an Excel spreadsheet with product information — easy. RSSBus Connect monitors the Excel files for changes, with updates triggering RSSBus Connect to convert new data to (DatatoXML) X12 port and pass the EDI documents directly to Boeing.

An EDI Solution Requires an Integration Partner

BaoTi selected China-based KA Software, one of the RSSBus featured technology partners, to assist with mapping, translation and AS2 configuration. Working with KA Software allowed BaoTi to rapidly accelerate their integration with Boeing and provided BaoTi a local resource for future expansion.

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The Result

Using RSSBus Connect, BaoTi is now more efficient in their order processing and has seamless integration with their customer, Boeing. BaoTi was able to transform their existing IT assets into a modern interface for direct, bidirectional communication with Boeing — without in-house development or third-party management. By interfacing directly with the Boeing EDI, BaoTi also gains increased visibility into demand forecast and improves operational efficiency by reducing order touch time, status updates and shipping paperwork. Today, their relationship with Boeing is thriving, as they're a key partner in the Boeing Raw Materials Strategy.

About RSSBus

RSSBus (www.rssbus.com) is a leading provider of data access and connectivity solutions, specializing in the development of data integration technologies for real-time access to online or on-premise applications, databases and web APIs.

Our flagship product, RSSBus Connect, serves more than 100,000 customers worldwide and is the only Drummond Certified AS2/AS4 solution that's 100 percent free for use with a single trading partner.

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