Tracking Your Fasteners

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Aerospace Industry — Growth & Change

The Aerospace industry is presenting many opportunities and challenges to fastener companies.

GROWTH —

The market is growing at a healthy pace. The growth shows up in several areas. Market research analysts at **Technavio** expect the aerospace fastener industry to enjoy steady growth from 2016 through 2020, with a compound annual growth rate of 7%. In that time, the global market is expected to reach US$8 billion. This growth will affect fasteners for both commercial and military aerospace sectors.

Mergers & Acquisitions

Mergers and acquisitions in the USA market such as the merger between **American Airlines** and **US Airways**, have spurred growth in the Americas as these larger companies upgrade their fastener technologies. Major manufacturers will look to buy smaller local companies in emerging markets, and the fastener industry will be expected to provide the most advanced products as these airline manufacturers ramp up their efforts in growing regions.

Commercial Air Travel Expected to Double in 20 Years

The commercial airline segment holds the largest market share for the global aerospace fastener industry at 59%. **Charisse Jones** of *USA Today* reports that commercial air travel demand is expected to double over the next 20 years. Commercial airline fasteners should reach US$5 billion in revenue by 2020, and will continue to dominate the market according to analysts.

Aerospace giant, **Boeing**, reports that much of this growth comes from “discretionary travel”, citing factors such as consumer confidence in airline travel and the availability of nonstop flights. This growing demand for commercial air travel throughout the world has stimulated continued growth for aerospace fasteners.

Developing Markets

Meanwhile, developing markets such as Brazil, India, Mexico and parts of North Africa are seeing increased demand for larger airline fleets. Analysts at **Global Industry Analysts, Inc.**, report that Asia-Pacific, Latin America and Canada have the most potential for future growth. In addition to commercial airlines, many countries are investing in military aircraft including military planes and support aircraft.

In addition to increased demand for larger airline fleets, other market drivers include developments in electric tools and replacement of aging aircraft.

CHANGE —

New Materials

Lightweight structure designs for modern aircraft have challenged the fastener industry to develop more advanced parts. **Ann Thryft** of *Design News* reported that new lightweight designs for aerospace vehicles have driven fastener manufacturers to develop smarter, tougher components that can join multiple parts from various materials.

Composite Materials

The biggest change for aerospace fastener manufacturers has been the move from metal to composite aircraft structures. Planes made from aluminum or other metals are protected against lightning strikes because metal is an excellent conductor, and the structure is designed to dissipate electricity throughout. This poses a problem for new composite frames and fasteners. On a composite structure, the fasteners become the conductors. Rather than spreading the electricity throughout the aircraft, the fasteners are heated to extreme degrees over a short period of time. However unlikely it is, it’s a possible disaster if a superheated fastener creates a spark near engine fuel.

Improved Strength & Durability

Another innovator, **Sussex Wire**, has developed the corrosion-resistant stainless steel fastener, or CRES. Cold forming

and thread rolling have created a reverse hex intrusion, which leads to a clean design that eliminates secondary operations. CRES is 50% harder than previous versions and provides a "higher throughput" as a low-cost alternative to machining, according to the Sussex site. **FAST** noted that the primary advantage of the CRES is improved strength and durability, "an important factor in mission-critical applications such as aircraft and aerospace assemblies."

Bright Future

As aerospace manufacturers develop new structures, the fastener industry has answered the call for stronger, smarter components that are better suited for lighter materials. The technical advances will help the industry continue to grow and prosper. *www.ci-inc.com*

Dennis, R. Cowhey, COB – Started **Computer Insights** in 1981. He served for many years on the **Illinois CPA Society Computer Information Systems Committee**. He is a frequent author of articles for industry trade magazines. Before starting Computer Insights, he served as Central District Manager for a division of **Litton Industries** (now part of **Rockwell**), that offered inventory control systems to retailers. Prior to that, he was a Credit and Financial Analyst for National Credit Office division of **Dun & Bradstreet, Inc**. Cowhey received his education at **Chicago City College** and **DePaul University**.

Computer Insights provides The Business Edge software for efficient tracking of fasteners. **www.ci-inc.com**