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AIR CARGO **FOCUS**



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Building Our Future

We have the leadership, the tools and the collaborative will to set the industry on the path to a secure and sustainable future.



Welcome to our second 2013 issue of Focus magazine. With May just around the corner, it is now only a matter of weeks before we come together at the annual CNS Partnership Conference. This year we are returning to the Sheraton Wild Horse Pass Resort in Phoenix, Arizona, from Sunday, May 5, through Tuesday, May 7, for what promises to be another first-class event.

We recently held the World Cargo Symposium in Doha, Qatar, where I was delighted to find that many delegates were also planning to join us in Phoenix. Our theme in Doha was "Action for Sustainability," and we started a number of important discussions there that we will further develop at the Partnership Conference under this year's theme of "Building Our Future."

Our industry continues to be shaped by the unpredictable state of the global economy. But the challenges of accelerating e-commerce and enhancing safety, security, and efficiency require us to adopt and invest in long-term strategies that deliver robust and comprehensive solutions. Add to this the further challenge of attracting and retaining top-class talent, and some would say that as an industry we are facing the perfect storm. Yet the feeling from Doha was that we had the leadership, the tools, and the collaborative will not only to weather the storm, but to set the industry on the path to a secure

and sustainable future. I'm excited to follow up on this renewed aspiration in Phoenix.

In this issue of Focus, we have taken the opportunity to sit down with two of our conference keynote speakers, Michael Ducker, COO at FEDEX, and Edward Bastian, President at Delta Airlines. We also keep an eye on business in South America with special insights from Victor Mejia, VP at Tampa Cargo, and Cristian Ureta, CEO at LAN Cargo. Additionally, we take a look at the global agreement on trade facilitation and its potential effect on the global economy, as well as at more immediate issues surrounding Dangerous Goods and what airframe manufacturers are doing to improve safety.

I hope you enjoy reading the variety of opinions and that you may be prompted to share your own thoughts either for a future edition of Focus or, better still, join us in person in Phoenix. You can find full details about the conference on our website.

Sincerely,

A handwritten signature in black ink, appearing to read "Des Vertannes".

Des Vertannes
Interim President
CNSC

As always, we welcome your comments, opinions, and suggestions for topics to be covered in future editions of CNS Focus. We are always pleased to hear from you.

You can reach us via e-mail at remmern@cns.net. The expanded 2013 Spring eBook edition of this publication is now available online at www.cns.net.





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Perspective

Apropos to the season CNSC has created its first extended online eBook version of the Air Cargo Focus printed magazine.



Spring is a time of change and new growth. Apropos to the season CNSC has created its first extended online Spring 2013 eBook version of Air Cargo Focus magazine. We know print's credibility, but we also recognize the advantages afforded to us and, by extending its content digitally. We will now be able to tell "The Rest of the Story" as Paul Harvey always said on his radio program. We will now have the ability to complete an interview, share a new story or let advertisers speak for

themselves. Our Spring 2013 e-Book goal is to expand original stories and provide more articles as a bonus. So, keep your copy of Air Cargo magazine with you and when it's convenient, join us on the Internet at www.cns.net for the full experience.

The printed Spring 2013 issue contains a variety of topics including a historical article from Boeing's Bob Saling reminding us of the contributions of aircraft manufacturing.

This issue refutes any misconception that all airlines are equal. To that end we interview some key people from FedEx Express, Delta Air Lines, Virgin Atlantic Cargo, LAN Cargo and Tampa Cargo. Today's airlines can best be understood through individuals who's work helped build the company they work for and believe in.

Rocio Vegas of CNSC and Theresa Light of IATA show how employee investment can generate positive returns, by taking advantage of Florida State Grants and cargo training programs.

Rick Eyerdam wrote two thought provoking articles, one on the much-discussed Lithium battery and a second article detailing the progress of the new Centers of Excellence.

William Enk's in-depth article is directed to individuals who will not compromise on safety. The subject is aircraft fire suppression. This must read article is continued online and is another good reason to visit our new Spring 2013 eBook.

Brandon Fried delivers a first rate summary on the AirCargo 2013 conference as well as other key news topics for freight forwarders.

Red Alexander contributed a powerful article on globalization and economic growth. The DHL Global Connectedness Index provides a

comprehensive look at the state of globalization around the world.

Michael Steen speaks to the WTO agreement and the easing of international trade transactions. He explores industry initiatives such as e-freight and e-AWB and evaluates their effects on both large and small companies.

Spring also signals our 2013 CNS Annual Partnership Conference. The theme, "Building Our Future", reflects the importance of both staying the course while recognizing the tremendous potential of working together. Common goals and innovation are still critical keys to succeeding in this competitive global market.

To many in the air freight industry a signed document is irreplaceable and Internet trust is still being earned, but e-Freight's time has come and we need to embrace it.

Michael Vorwerk stated this time last year, "Things only start to gain traction when we involve the broader community." His message is as powerful then as it is today. Our goal at Focus is to embrace the entire aviation community and for all companies to have a voice. This is a big message platform going to thousands of potential clients.

The fact that shippers and consignees share common views with others in the aviation industry is directly tied to our effort of working together with the entire industry, which is why we have opened this expanded online platform. Through the eBook we can offer entry to companies with smaller marketing budgets to have a voice and reach a larger, more discerning market with their advertising message. For details and information on advertising opportunities for both print and our new eBook, contact Nicole Remmer at remmern@cns.net.

I welcome all your comments, opinions and article suggestions. Thank you IATA, CNS Members and the aviation community.

All the best,

Robert Louis Christensen,
Editor in Chief
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The Building of an Industry

How freighters and air cargo shaped our world

Bob Saling, Boeing Commercial Airplanes



The Boeing Model 40 was a single-engine biplane that was widely used for airmail services in the United States in the 1920s and 30s. (Courtesy Boeing)

The world took a healthy leap forward on December 17, 1903. That's when the Wright brothers' tremendous achievement made the world smaller and more interdependent than Wilbur and Orville might have imagined. Overlooked by many people in the coming months will be the contributions of "the other side" of air transport – the movement of high-value goods.

It would be difficult to imagine our lives without the products available to us as a result of the air-cargo industry. From the electronics and mail that keep us connected to the fresh fruits that keep us nourished, our society is more dependent than ever on the materials that travel by air. From humble beginnings, air cargo has grown into a \$46 billion business, with 40% of world-trade value traveling on-board commercial aircraft. The speed and reliability of air cargo give global customers greater choices, as well as creating businesses, economic growth, and employment.

The business possibilities and culture we now enjoy were facilitated by the talents and innovations of the developers of the airplanes upon which today's Boeing company was built. From the Boeing B&W and the Douglas DT/C-1 airplanes to today's 747-8 Freighter, Boeing and its heritage companies have been at the forefront of air cargo from day one.

Mail – The Beginning

Many of us think of airplanes in terms of passengers. But in the very beginning, there were no passengers, only cargo.

In 1916, the B&W was the first airplane developed by Bill Boeing and his then-partner George Westervelt. This was the airplane that later pioneered express and airmail deliveries in New Zealand. And in 1919, Boeing and pilot Eddie Hubbard used a Boeing Model C to carry 60 letters from Vancouver, British Columbia, Canada, to Seattle, delivering the first international airmail.

During the same period, Douglas Aircraft developed its second line of airplanes, the DT-1 and -2, in California, under contract with the U.S. Navy. In addition, 59 mail planes were derived from the DT, including the Douglas M-2, which was one of the first aircraft to fly US commercial airmail.

Boeing also produced the Model 40 mail plane in 1923 and, two years later, refurbished it as the Model 40A. In 1927, powered by a much lighter air-cooled engine, the Model 40A won the U.S. Post Office contract to deliver mail between San Francisco and Chicago.

Transition in the 1940s

The Douglas DC-3, which made air travel popular and airline profits possible, is universally recognized as the greatest airplane of its time. The DC-3's rugged airframe took air transportation and air cargo to a new level. American Airlines was the first U.S. carrier, in 1942, to provide transcontinental air-cargo service with its DC-3 Freighters.

The attributes of the DC-3 did not go unnoticed by the U.S. Army, which ordered a hybrid DC-2/DC-3, the C-39, in the first serious effort by the Army to establish an airlift capability. The cargo variants of the DC-3, including the C-47, were suitable for up to 6,000 pounds of cargo and large enough to hold a fully assembled ground vehicle. By the end of World War II, more than 10,000 had been built, and airlines kept the DC-3 operating in significant service numbers for quite a few years.

In 1957, the DC-3 made Lufthansa's first all-cargo flight from Germany to New York.

One of the first airplanes to fly a regularly scheduled around-the-world route was the Douglas DC-6, with its increased high-performance accommodation, greater payload, and pressurized cabin. The all-cargo DC-6A entered service in 1949 and also found success as personnel carriers, transports, and medical-evacuation airplanes.

The Jet Age

Both Boeing and Douglas found success in adapting the jet engine to air transport. Boeing led the way, but Douglas acted quickly and readily courted carriers who were becoming more focused on freight to generate revenue.

The first jet application in cargo airplanes was the Boeing Dash-80, which had few windows and no seats, but offered two large cargo doors. Its offspring, the Boeing 707, brought jet-propelled travel to the world. The airplane also found fortune as a freighter and, eventually, as the leading tanker-transport, the KC-135.

At the same time, Pan Am was replacing older DC-6A Freighters with the Boeing 707 Freighters on the North Atlantic. The 707F was 75% faster and carried a payload more than twice that of the DC-6A, achieving a four-fold increase in productivity.

In 1964, Douglas designed the DC-8, which ultimately resulted in the "stretch" DC-8 Freighter that still operates today.

For cargo airplanes
the first jet application
was the Boeing Dash-80.

It had just a few windows and no seats,
but offered two large cargo doors.

Its offspring, the Boeing 707,
brought jet-propelled
travel to the transport world.

Passenger-to-Freighter Conversions

As demand increased for jet-powered freighter aircraft, new cargo versions of several models were developed, including the DC-9, DC-10, 767, 757, 737 and MD-11. However, due in part to the acquisition cost of new airplanes, a number of operators instead chose to purchase passenger airplanes for modification to a freighter configuration.

Although reliability, maintenance costs, and other attributes of newer airplanes attract a number of well known operators, the cost of the pre-owned airplane, coupled with the conversion cost, provides an attractive, lower-cost alternative for many of the world's airfreight carriers. Cargo thus brings additional life to airplane programs. Many models, after starting life as a passenger airplane, have the capacity to be transformed into cargo aircraft for essentially a new life. Today's successful passenger airplanes will be tomorrow's successful freighters.

The Boeing 747

The 1970s brought new direction to the air-cargo business. During the initial development of the Boeing 747, the prospect of a supersonic transport loomed large on the horizon. So large, in fact, that the company was not sure how long the 747 would be viable as a passenger airplane.

"To optimize its expected eventual primary role, it was decided that the design should incorporate capabilities to perform more efficiently as a freighter – with such features as the high interior profile and nearly straight vertical walls," stated Joe Sutter, Senior Sales Counselor for Boeing Commercial Airplanes. "Since the first 747 freighter entered



This idyllic photograph is taken of the B & W. It was the first Boeing product, named after the initials of its designers, William Boeing and Navy Lt. Conrad Westervelt. The first B & W, completed in June 1916, was made of wood, linen and wire. Similar to the Martin trainer that Boeing owned, the B & W had, among other improvements, better pontoons and a more powerful engine.

revenue service with Lufthansa in 1972, the 747F has been a key element in an amazing 30-year expansion of air-cargo capacity, introducing unprecedented efficiencies to the industry."

The portion of total freighter-airplane capacity provided by the 747 alone (versus all other freighter-airplane types) is staggering. Even today, nearly half of the world's freighter capacity is made up of 747F models. It could be said that the 747 built the air-cargo industry that we, as consumers, take for granted today.

In 1972, Lufthansa launched intercontinental airfreight business with its 747, which became the backbone of its international trade. This made the amazing globalization of the world economy possible – for high-tech industries, it is a requirement of the worldwide supply chain. In 1974, Korean Air became the first transpacific operator of the Boeing 747-200 dedicated freighter. The aircraft opened a new era of

aircraft economics, was a timely fit for customer needs for mass air transportation, and contributed greatly to air-cargo business expansion.

The key to this success is the versatility of the 747. With the ability to carry 113 metric tons up to 9,200 kilometers nonstop, the 747-400F is the only Western-built freighter that has both side and nose doors, providing its operators with additional revenue-earning potential. The development of the 747-400 production freighter was a very significant milestone in the freight industry, where speed and reliability in a time definite market were becoming increasingly critical in moving to just-in-time or zero-inventory environments.

The nose door of the 747 production freighter accommodates long, outsized loads that generally commanded a premium rate for shipment. The side door accommodates tall, outsized items and high-cube pallets. Sutter points out that the combination of nose and side cargo doors

provides operators with the ability to earn \$4 to \$6 million per year in incremental revenue per airplane. 747 freighters also opened doors for forwarders to ship everything from cut flowers and fresh produce to boats, helicopters, and road vehicles.

In addition, the passenger version of the 747 has had its own impact on the industry. The passenger airplane's lower cargo holds, or bellies, carry a majority of the cargo that moves by air. Geoff Bridges, past President of The International Air Cargo Association, notes that the 747 passenger airplane had a "profound effect on the cargo-distribution system. The 747 altered the capacity differential between what could be carried in belly holds and freighters. With a capacity exceeding 15 metric tons, the 747 passenger version could carry, by size, up to 90% of all cargo offered."

In 2000, Boeing delivered to Qantas the first 747-400ER Freighter, the latest enhancement to the product line. This airplane featured the top range, payload, and speed of any freighter currently in service and

improved operational efficiency.

With the 747-400 freighter as the flagship, world airlines in 2002 earned more than 90% of their air-cargo revenues with Boeing freighters. The "Boeing Freighter Fleet Forecast," contained in its World Air Cargo Forecast and Current Market Outlook documents, indicates that world air cargo-traffic levels will triple over the next 20 years and that the jet-freighter fleet will double in number. In addition, the average freighter size is expected to increase.

"Air cargo is just going to increase in importance as companies work to become more efficient," predicted Boeing's Sutter. "And I think we'll continue to see the 747 as the key transport in the air-cargo industry for a long time. In addition to having revolutionized the industry, its influence and presence will be with us far into the future." Mr. Sutter was correct – the 747 is delivering to this very day.



Photographed at Everett, Washington, this Boeing 747-8F and AirBridgeCargo Airlines is part of the Volga-Dnepr Group. This aircraft was the second of five new Boeing 747-8 Freighters. AirBridgeCargo Airlines is the first airline in Eastern Europe to operate the 747-8 Freighter.



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From the Top

Michael L. Ducker, President and COO, International, FedEx Express



Michael L. Ducker

Michael L. Ducker, President and Chief Operating Officer,
International, FedEx Express

Photo courtesy of FedEx Express

A Businessweek article, entitled, "Fred Smith on the Birth of FedEx" revealed some interesting details. One thing author Dean Foust stated was that "FedEx is one of the great entrepreneurial success stories of the past quarter-century." I concur with the author.

Success is measured in many ways. Certainly the traits exhibited by all these examples, became accepted American business norms and redefined consumer expectations. For example, we expect our doctor's vaccination to be potent and not expired. We also expect the jet we boarded will arrive on time. We expect the presentation package we that was sent yesterday to arrive at the hotel, plus we expect our cell phones to instantly locate tracking information on the package. These expectations have become the norm.

I am a fan of Fred Smith's speeches; they are no-nonsense and passionate, like the man himself. Smith takes the most complicated

subject matter and breaks it down for all to understand. He also took the time to describe FedEx in terms of the needs that FedEx fills. "The thing about FedEx today is that it kind of lives in the midst of a force field, of four things that are going on:

Michael L. Ducker heads the customer interfacing aspects of the FedEx North American operations and international business, which includes more than 220 countries and territories around the globe.

One, the revolution about fast-cycle distribution in logistics continues. The second thing is globalization. The third thing is that of the things that are produced, more and more of them tend to be high-tech or high-value-added. The number of chips in an automobile is unbelievable. And the last is the growth of the Internet. So you take all four of those things...those are very profound trends, and we sit right in the middle. FedEx started with a very simple observation. As society automated, the manufacturers of that automated society were going to need a completely different logistics system.

Smith speaks in terms of "we". That is to say, he acknowledges the value of team and this is why we feel privileged to have with us today, Michael L. Ducker, Chief Operating Officer and President, International for FedEx.

Michael Ducker heads the customer interfacing aspects of the FedEx North American operations and international business which includes more than 220 countries and territories across the globe. He also oversees FedEx Trade Networks and FedEx Supply Chain.

Michael leads the company's efforts to open markets, improve customs procedures, and support international economic-policy reforms around the world. Any one of these overwhelming tasks could fill a normal sixty-hour week.

Michael served as president of FedEx Express Asia Pacific in Hong Kong for four years and also led the Southeast Asia and Middle East regions from Singapore. This as it turned out became the most vibrant and most watched market in the world.

Born in Chattanooga, Tennessee, he received his MBA from a joint program of the Kellogg School of Management at Northwestern University and Hong Kong University of Science and Technology.

It is with these acknowledgements of Michael Ducker's many achievements that we start the interview.

Focus : Hello Mike and thank you for speaking with us today. Let me first ask what initially attracted you to FedEx?

Ducker : Actually, I started with the company back in May of 1975 just after school was dismissed for the summer. I told a buddy of mine that I was looking for a part-time job in Memphis and he urged me to apply to a little company where he had just started working called Federal Express. So, I applied and went in for an interview the very next day. They gave me a physical, asked me three questions and told me to report to work that very night. I was a cargo handler and my job was to load and unload Falcon Aircraft. I have been with the company ever since.

Focus : I enjoy speaking with FedEx drivers, who in my opinion should receive extra pay for traversing Miami traffic. I asked one driver what FedEx changes he would like to see. He did not mention pay raises; he did however say he would welcome driving electric as opposed to gas-powered vehicles. Is this a viable option and which country would you see this change coming to first as part of the FedEx delivery system?

Ducker : By the end of this fiscal year, FedEx Express will have approximately 200 all-electric (and 360 hybrid-electric) vehicles in its global fleet. Here in the U.S., we have a number of EVs in California, Washington, D.C., Colorado, New York, Texas and Tennessee, among other markets. We also have all-electric vehicles in the UK, France,

Germany, Italy and Hong Kong.

FedEx Express follows a three-tiered strategy to improve the fuel efficiency of its fleet: Reduce, Replace and Revolutionize. This holistic approach to fleet management allows us to develop vehicle technologies for the future while maximizing the conventional vehicles we operate today. FedEx Express has seen the biggest impact from our initiative to match the right vehicle – traditional delivery van, Sprinter-type van, panel van, hybrid or all-electric vehicle - to each route – urban, suburban, rural.

Focus : Mike, you oversee both FedEx Express and FedEx Trade Networks. FedEx is a global company operating in a world that can sometimes be described as unstable in terms of economic policies and political views. Where do you find the common ground to conduct business with the many countries you service?

Ducker : The ability to improve one's economic, political or social standing is a nearly universal desire across all classes of people. By continually tapping into that common desire we will almost certainly continue to find common ground upon which to build stronger economic and ties.

To be successful, entrepreneurial enterprises, mostly small and medium- sized business, must look beyond the issues that divide people and find the common bonds and strengths that can bring them together. In doing so, you will encounter a wealth of opportunity that otherwise would have been overlooked.

FedEx has embraced such an entrepreneurial spirit for many years, and our access to over 220 countries and territories is evidence of our success in connecting people around the world.

That being said, our regulatory teams work hard around the world to guide government policies on issues such as trade, customs, cargo security and the environment. We have excellent leadership in each region and we work together collectively to ensure that our customers' needs are met.

Focus : You serve on the advisory committee for Trade Policy and Negotiations for the Obama Administration and chair the International Policy Committee. How important is the work done on the Open Skies initiative and current bi-lateral agreements to

international trade? What more can be done to facilitate air cargo?

Ducker : Open Skies has been critical to the development of global air-cargo networks, allowing operational flexibility, which has promoted the hub-and-spoke system internationally. Liberalization of bilateral agreements has in turn led to even greater flexibility under newer multilateral agreements such as the U.S.-EU Air Services Agreement, sometimes called the “Beyond Open Skies” Agreement.

Further liberalization of air-cargo rights is important for international trade. There appears to be significant support for a true multilateral agreement where like-minded countries can come together to open up air-cargo markets to open competition and expanded services.

Open Skies isn't done yet, and we would like to see markets such as Mexico, Russia and South Africa join the liberalization efforts.



Focus : It took many years for FedEx to build a relationship with China. As a member of the U.S.-China Business Council, what could Americans and its businesses do to help foster better understandings with China for a stronger tomorrow? How can the media help support the activities and objectives of U.S. businesses in China? What message(s) should we focus on delivering through our individual outlets?

Ducker : That's a much bigger question than can be answered adequately in five minutes – or five hours. But I think the key to greater understanding is a more active dialog and exchange between our two countries. That is something that is already going on. At the national level the main venues for that bilateral discussion are the Strategic and Economic Dialog and the Joint Commission on Commerce and Trade. States and cities in the United States also have active people-to-people exchanges with China: Phoenix is a sister city with Chengdu. China

has established almost 80 “Confucius Institutes” in cooperation with universities across the United States, including at least two in Arizona, which I think is a great way to promote mutual understanding.

But a good dialog is about more than just talking. It is about listening, understanding and compromising. We have to understand that mutual understanding doesn't necessarily lead to mutual agreement. China is going to take its own path and we have to accept that. At the same time, China needs to accept that America too, has its own history and traditions that they may not like, but will have to accept. I think the role of the media should continue to be to report the facts as objectively and comprehensively as it can. It would help if they continuously strive to be more balanced in their coverage.

Focus : Your work with The Salvation Army must be rewarding and humbling. The United States Overseas Child Sponsorship programs support individual children and Salvation Army children's homes, schools and centers around the world. Americans' financial gifts help provide food, clothing, shelter, medical care, education and spiritual nurturing to children in need. What are the benefits for American businesses to become better corporate citizens of the world?

Ducker : There are many reasons that American businesses should strive to be good corporate citizens. When we provide our FedEx resources to help the NGO sector, for example, this helps develop healthy communities that lend themselves to stronger economies. This is the type of environment where business can thrive, which is good for the community, good for FedEx and good for other American companies. Being a good corporate citizen also allows companies to strengthen ties with governmental authorities and sometimes collaborate with customers, creating richer working relationships that may lead to business-growth opportunities.

Corporate reputation is also affected by a company's citizenship initiatives. Cone Communications regularly surveys the public about attitudes towards corporate citizenship and their most recent survey indicated that 94% of consumers will actually switch brands to one associated with a cause, when quality and price of product and service are competitive.

More than anything, though, American businesses should be good corporate citizens because it's the right thing to do. With 650 airplanes, we can get relief materials where they need to go, overnight, for organizations including the Red Cross, The Salvation Army and Heart to Heart. Providing relief helps communities recover. The faster they can recover, the faster residents may return to a sense of normalcy and wellbeing.

We also have tens of thousands of vehicles on the world's roadways

and we are making a difference through our child pedestrian safety campaigns in ten countries with Safe Kids Worldwide. Helping create safer road conditions benefits both the community and FedEx.

And through our work with EMBARQ in India, Mexico and Brazil we are helping to provide sustainable transportation systems as our engineers work with the organization and local traffic authorities to help guide the development of rapid transit bus systems.

At FedEx, we live by our People-Service-Profit philosophy. We treat our people right, they in turn provide great service, and this all results in profits for our shareowners. Through citizenship initiatives, we hope to position FedEx as an employer, neighbor and carrier of choice.

Focus : Mr. Smith stated that a very big part of the FedEx story is the parallel effect of the relaxation of government regulations. At that time he was speaking of the 1978 Deregulation Act. Today what more is needed to help the air cargo industry?

Ducker : Now that we have aircraft operating freely across most borders, we need to make sure that the goods we carry can also transit borders as easily. Trade agreements that lower both tariffs and non-tariff barriers are important for stimulating trade, much of which is carried on aircraft. Studies show that up to 10% of the cost of international trade is from red-tape associated customs and other administrative procedures required for import and export. Trade facilitation measures to improve customs performance and reduce administrative costs can provide a significant boost to trade and economic growth. Investments and upgrades in airport infrastructure, especially for cargo handling, are also necessary in many parts of the world.

Focus : Both surface and air transportation are based on linear routes. What are the keys for putting together logical networks?

Ducker : At FedEx Express, we pride ourselves in serving 95% of the world's economy within 1 to 3 business days. In order to do that, we have the most comprehensive network of freighters in the world. Understanding trade flows, we are able to connect common economies using a hub-and-spoke system. This system allows efficient routing of packages between multiple points. For example, our FedEx World Hub in Memphis has connectivity to 100% of US markets and allows us to offer next-day service by as early as 8am throughout the United States. The World Hub also has over 20 daily flights connecting key international markets. To offer faster service with better cutoff and delivery times, we have implemented several regional hubs in Oakland, Newark, Miami, Indianapolis, Paris, London, Dubai and Guangzhou. Much like the World Hub, these hubs provide efficient routing of regional packages while minimizing the hours the packages are flown

and improving services in that region.

FedEx Express also operates an extensive fleet of trucks as part of its integrated network. The trucks operate to and from our hubs and give us the option to route either express shipments on short-stem lanes or deferred shipments using a lower-cost mode. This allows us to keep costs low while maintaining our non-compromising commitment to deliver shipments on-time every time.



Focus : FedEx is an admired integrated logistics provider. What are the most important considerations for executing solutions that leverage shipping and information networks in commercial markets around the world? What improvements do you see FedEx air making in the future?

Ducker : As FedEx founder and Chairman Fred Smith once famously said, "The information about the package is just as important as the package itself." Our belief in the power of information is at the very core of every innovative solution we have brought to market since 1973. For example, our SenseAwareSM solution pairs a multi-sensor device with web-based monitoring to allow for near real-time insight into shipments.

Our external environment can be challenging, to be sure. But the most important consideration to our industry today, as ever, is our customer—who is more empowered than ever before. The key is using the unprecedented levels of information that we have to create new efficiencies to deliver the right solution at the right price to meet the customer's needs.

Focus : Each country naturally looks after its own national interests first. As an Executive Board Member of the U.S. Chamber of Commerce, how do you see American air-cargo staying economically competitive in an ever-changing world?

Ducker : We believe that America – and American air cargo – stays

competitive by remaining open. To change, to new markets, to trade. Markets and consumers outside our borders represent 73% of the world's purchasing power, 87% of its economic growth, and 95% of its consumers. We must harness these new markets, this growth and these new consumers. We believe open global cargo markets would also foster growth. The national interest we look after is growth in our economy. Trade must play a vital role in this. Each time we lower trade barriers, it helps companies like FedEx expand operations and services. That's how we stay competitive.

Focus : The theme of this issue is building our future. FedEx is a customized system that was designed to solve problems. What changes do you see for the FedEx logistics systems? Where do you see the most growth potential and what problems are you working on now for a better tomorrow?

Ducker : This is very simple. Logistics systems are changing because our customers are changing. The rise in direct business-to-consumer transactions, powered by the Internet, has created new expectations and demands—both for FedEx and for the customers we serve at all points along the supply chain.

In this environment, the greatest potential for growth lies in creating new efficiencies amid these new customer-facing efficiencies that are now built into the system. I want to highlight several critical ways we're doing this: in our IT, our aircraft, and our network integration. Over the past two years, FedEx has taken one of the world's largest commercial, mission-critical, real-time IT systems and transitioned it into a single, hybrid-cloud platform that supports all of our IT functions — processing more than 15 petabytes of data daily and growing. This

will enhance the customer experience for years to come.

New aircraft are already helping us keep capacity and demand in equilibrium. A 777 requires half as much space for baggage and fuel, meaning more cargo capacity. And as concerns the network itself, we recognize that each delivery mode has a place and unique strengths. With the information we now have, we have the visibility to use ground and ocean delivery intelligently and to the fullest extent. This is designing the network of the future, today.

Focus : Wal-Mart and other retail giants have learned from the FedEx logistics model and have brought their costs lower than ever and have recast their own logistics. Where do you think these large businesses go from here?

Ducker : Now that we've made supply chains smarter, we innovate to create value through added services. For example, manufacturing today requires a sophisticated supply chain, in which hundreds of critical parts are spread across suppliers often on several continents. We developed a solution, FedEx SupplyChain, to help customers put together these pieces—by providing a tailored advisory service to help businesses manage complex global supply chains in a smart way. Many large businesses are seeing similar opportunities through value-added services.

Focus : We sincerely enjoyed our conversation and learning more about FedEx. Thank you again on behalf of the CNS Focus readership.



The FedEx Express Story

Over the past 40 years, FedEx has remained both a driver and indicator of the global economy, evolving and adapting to the modern world. FedEx was built upon innovation – it drives the FedEx business strategy and is an integral part of the culture. FedEx team members are the core of the FedEx business, delivering exceptional customer service and providing assistance to communities globally in times of crisis.

The company that launched the overnight delivery industry is forty years old.

On April 17, 1973, FedEx Corp., then known as Federal Express, began operations at the Memphis International Airport with the delivery of 186 packages to 25 U.S. cities. Today, FedEx and its four operating companies handle more than 9 million packages each day via a high-tech network designed to connect customers by air, land and sea in more than 220 countries and territories worldwide.

“For 40 years, the men and women of FedEx have dedicated themselves to helping our customers connect to the world,” said Frederick W. Smith, chairman, president and chief executive officer, FedEx Corp. “Today, our more than 300,000 team members mark this milestone with a spirit of service and dedication that ensures 40 years is only the beginning.”

FedEx: Yesterday and Today

Since launching operations in 1973, FedEx has grown into both a driver and indicator of the global economy, linking 99 percent of the world's GDP. Today, FedEx encompasses diverse yet complementary businesses that cover a full range of logistics and business solutions designed for the needs of today's global and local commerce.

The company that made its mark with the overnight delivery has adapted to meet the changing needs of its customers over the past four decades, pioneering advances in the process of moving and tracking goods around the world. Its portfolio now includes a robust variety of shipping options including Ground, Freight and Ocean-based services, as well as business solutions designed to meet the needs of customers from start-ups to international corporations.

From the beginning, the company's innovative “hub and spoke” approach to transportation and seamless integration of cutting-edge IT systems set FedEx apart, and laid the groundwork for a sophisticated network capable of moving millions of packages around the world. On its busiest day since its launching 40 years ago, December 18, 2012, FedEx processed 19.8 million packages. It is estimated that FedEx has shipped more than 31 billion packages since 1973.

Forty Years of Innovation

In 1978, FedEx founder and Chairman Fred Smith famously said, “The information about the package is just as important as the package itself.” The company's firm belief in the power of information and access – reflected in Smith's quote – is at the very core of every innovative solution it has brought to market since 1973.

1979: Federal Express launches COSMOS, a centralized computer system to manage people, packages, vehicles and weather scenarios in real time.

1984: The first PC-based automated shipping system, later named FedEx PowerShip®, is introduced.

1986: Federal Express introduces SuperTracker®, a hand-held bar code scanner system that captures detailed package information.

1994: FedEx launches fedex.com as the first transportation Web site to offer online package status tracking.

2003: FedEx Express introduces its first hybrid-electric truck to the delivery fleet.

2007: FedEx Office Print Online launches, allowing customers to upload and customize their print orders directly via the FedEx.com website.

2009: FedEx launches SenseAwareSM, a multi-sensor device paired with web-based monitoring for near real-time shipment insight

Today, FedEx is taking innovation to a new level by investing in the transformation of its IT system networks into a single, hybrid-cloud platform that supports all of the company's IT functions – processing more than 15 petabytes of data daily and growing. (A petabyte, derived from the SI prefix peta is a unit of information equal to one quadrillion (short scale) bytes, or 1 billion (long scale) bytes. The unit symbol for the petabyte is PB. The prefix peta (P) indicates the fifth power of 1000: one PB equals about: 1,000,000,000,000,000 bytes.

“The size and scope of the FedEx IT transformation taking place are monumental achievements in the company's 40-year legacy of innovation,” said Robert B. Carter, Chief Information Officer,

FedEx Corp. "FedEx is enabling one of the world's largest commercial, mission-critical, real-time IT systems to successfully take advantage of cloud technology and modernized application software systems, a feat that will enhance the customer experience and set the stage for FedEx to lead with other technologies for years to come."

Forty Years of Service

Extending a long-standing tradition of service, FedEx has declared April as a Global Month of Service for team members worldwide. Around the world, team members are organizing and volunteering in support of their favorite organizations. FedEx will be further supporting these efforts by distributing \$40,000 in non-profit grants.

In addition to the Global Month of Service anniversary activities, more than 600 U.S.-based team members will roll up their sleeves for urban environmental sustainability projects in 15 cities as part of the company's annual EarthSmart Outreach program with the National Fish & Wildlife Foundation (NFWF) this month. Team members will be working alongside local nonprofits that have received grants from FedEx and the NFWF foundation, to carry out urban conservation projects in the community. The FedEx and foundation grants, totaling more than \$550,000 in 2013, will be matched with grants from local municipalities and agencies to yield more than \$1 million in support for these critical environmental projects.

About FedEx

FedEx Corporation provides customers and businesses worldwide with a broad portfolio of transportation, e-commerce and business services. With annual revenues of \$44 billion, the company offers integrated business applications through operating companies competing collectively and managed collaboratively, under the respected FedEx brand. Consistently ranked among the world's most admired and trusted employers, FedEx inspires its more than 300,000 team members to remain "absolutely, positively" focused on safety, the highest ethical and professional standards and the needs of their customers and communities.

FedEx Trade Networks Announces Expanded Infrastructure in Latin America

On April 2013, FedEx Trade Networks, the freight forwarding arm of global shipping giant FedEx Corp. (NYSE: FDX), has expanded its presence and service capabilities in the Latin America region through

a series of strategic operational developments. Over the last several months, the company has executed an organic expansion plan including opening new offices, establishing alliances with regional service providers and launching new freight forwarding service options.

"FedEx Trade Networks is committed to delivering reliable supply chain solutions where our customers do business," said Fred Schardt, president and CEO of FedEx Trade Networks. "Trade volumes continue to increase in Latin America, and our expansion efforts provide customers with greater access to superior freight forwarding in these emerging markets."

Organic growth in the region has been a key part of the company's aggressive global expansion. Continuing its goal to offer best-in-class freight forwarding solutions around the world, FedEx Trade Networks recently opened new offices in Brazil and Mexico. The company has operated in both countries since 2009 and added new locations in Rio de Janeiro, Guadalajara and Monterrey to its existing infrastructure. In addition to owned offices, FedEx Trade Networks has also established strategic alliances with locally-based regional service providers to enhance its coverage and extend its capabilities to reach 19 countries throughout Latin America.

FedEx Trade Networks also announced a new strategic alliance with Portlink Logística Multimodal Ltda, one of the largest freight forwarders in southern Brazil. This is the company's largest alliance in Latin America, which increases its reach and capabilities in the high-growth Brazilian market. The alliance also gives Portlink Logística Multimodal customers access to the FedEx Trade Networks solutions portfolio and global network, while enabling both companies to build new business and strong customer relationships.

In another move to meet the needs of shippers in Latin America, FedEx Trade Networks now provides an air consolidation service between Mexico and Brazil. The new service combines customers' shipments to help streamline their supply chain between the Benito Juárez International Airport (MEX) and São Paulo-Guarulhos International Airport (GRU). With this service, FedEx Trade Networks experts consolidate, coordinate, transport, track and facilitate inspections for businesses that want to make shipping between these two major airports faster and more cost-effective.

As trade in the Latin America region grows, so does the FedEx Trade Networks infrastructure and solution portfolio. The company's continued expansion allows it to deliver efficient multi-modal transportation solutions, backed by global and local expertise, throughout Latin America.



CLICK HERE: To learn even more about FedEx Shipping Services.

http://www.fedex.com/us/ship/?cmp=KNC-1001218-1-1-950-1111110-US-US-EN-BRANDFY13TRANSP&s_kwcid=TCI16436Ifedex%20shippingIIISibI9397691168/



Hundreds of New Flights.
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MORE FLIGHTS. MORE DESTINATIONS. MORE RELENTLESS RELIABILITY.

Now that the Southwest Airlines® and AirTran® networks are connected, Cargo Customers have hundreds of new flight options to choose from for reliable shipping, including four new destinations: Charlotte, NC (CLT); Rochester, NY (ROC); Richmond, VA (RIC); and San Juan, PR (SJU). For information, visit swacargo.com/moreflights.

Southwest Airlines Cargo® service to San Juan, PR (SJU), begins May 2013. Flights to/from Richmond, VA (RIC), are operated by AirTran. For shipments to/from San Juan, PR (SJU), only Next Flight Guaranteed™ (NFG) and FREIGHT™ service levels will be available.

From the Top

Mr. Edward H. Bastian, President, Delta Air Lines



Edward H. Bastian, President, Delta Air Lines

Photo courtesy of Delta Air Lines

Edward H. Bastian is president of Delta Air Lines and a member of the company's Board of Directors. Mr. Bastian directs a team focused on strengthening Delta's financial foundation through strategic innovation, debt reduction, revenue growth and bolstering the airline's global network. Mr. Bastian also serves on the Board of Directors for Aeromexico and GOL.

Before assuming the post of President of Delta Air Lines in 2007, Bastian served as the CEO and President of Northwest Airlines. He worked with Acuity Brands. Bastian redesigned the SAP financial systems at Delta. Mr. Bastian also worked for Frito-Lay International and as a Partner with Price Waterhouse. He serves as a Director of Northwest Airlines Corp. and GOL Linhas Aéreas Inteligentes S.A. Mr. Bastian is a graduate of St. Bonaventure University with a BBA (1979) and is also a Certified Public Accountant.

Delta Cargo is vital to Delta's profitability by generating revenues of nearly \$1 billion in 2012 for the company. We have asked Mr. Bastian to share his views on the cargo side of Delta.

Before we start on cargo specifics, we would like to point out that Delta was named for the second consecutive year to the Dow Jones Sustainability Index for North America, which recognizes commitment to integrate sustainable practices into the workplace.

Focus : Mr. Bastian, considering that Delta is seen at more than 300 destinations around the world, how important is being a good corporate citizen?

Bastian : As a global airline, we take very seriously our commitment to our customers, our investors, our employees and the communities in which we serve. We've made environmental sustainability a top priority, with a strategy that has reduced our greenhouse-gas emissions by 16% since 2005. Delta's Force for Global Good, our community outreach organization, partners with nonprofit and community organizations worldwide such as the American Red Cross, Habitat for Humanity and the Breast Cancer Research Foundation. And as we've enjoyed financial success over the past few years, we've shared those benefits with our employees, who earned \$372 million in profit sharing last year.

Focus : Delta has an experienced frontline workforce in place to continue Delta Cargo's successful operation. Delta continues to invest in the cargo operation, growing the U.S. mail market share by utilizing its mail-sorting system, the latest scanning technology, upgrading its facilities, setting metrics for scanning, DASH NFD (notification for delivery), for its domestic mail. Mr. Bastian, this is cutting-edge technology. How has Delta kept on top of the latest R&D efforts, and do you work directly with colleges or institutions?

Bastian : Delta's model of innovation is really centered on our people and our unique culture. If we make Delta a great place to work and take care of our employees, our employees will take care of customers and our customers will take care of our shareholders.

So, we have an unwavering commitment to our people and to safety and compliance. Customer service starts with our frontline team.

We are also committed to achieving operational excellence. And we know that having a great operation starts in Atlanta, so we are

Mr. Edward H. Bastian
has been the
President of Delta Air Lines
since 2007.

He served as the CEO and
President of Northwest Airlines
during its merger with Delta
in 2008,
which he helped oversee.

committed to driving system-wide improvement from our hub. We are also measuring all of our processes to ensure that we are driving continuous improvement throughout the lifecycle.

We are also focused on leveraging technology to provide customers with timely, reliable and relevant information. This includes our e-Freight initiatives as well as our investment in deltacargo.com. We are developing a portfolio of options for our customers to transact with us electronically from booking to airway bill submission and beyond. We know that making it easier for our customers to do business with us drives increased efficiency and customer loyalty.

Focus : Delta has developed its own independent online deltacargo.com platform. What steps do you see in developing an even more efficient worldwide system of e-cargo solutions, and who should take the lead?

Bastian : Delta has made a significant investment in developing the deltacargo.com platform. Phase one of the project launched in December 2012 and offers an improved design, enhanced shipment tracking, and options for email notifications. Phase two of the project is currently in development and is scheduled to launch later this year. When this phase is complete, the website will feature an improved booking platform that enables eAWB submission. This booking platform will be targeted towards small and mid-size forwarders who

may not have the internal technology requirements to support the direct connection application. The website will also provide customers with additional tools that make it easier to do business with Delta Cargo including further enhanced shipment-tracking capabilities and customer log-in functionality for individualized performance reporting and communication. Both of these tools utilize the industry standard XML message formats set by IATA.

The air-cargo industry has traditionally taken a very conservative approach to technology enhancements. This is evidenced by the recent revision of the IATA target for 100% eAWB adoption from 2014 to the end of 2015 due to low levels of adoption within the industry.

To encourage the necessary wide-spread commitment to eFreight, industry leaders must work as a collective group to provide a more compelling business case for adoption. In a period of ongoing yield pressures and tough economic conditions, air carriers and freight forwarders need to take advantage of opportunities to control costs where possible to protect margins. eFreight promises to enable a paperless supply chain and simply removing paper documents from the shipment lifecycle creates significant cost savings that directly impact the bottom line.

However, these cost-savings cannot be fully recognized by any market participant until a majority of the industry participates in such initiatives. Until then, a lack of standardization in shipment-handling and data-capture procedures across carriers, forwarders, and governmental agencies acts as a significant barrier to large-scale eFreight adoption. The air freight industry is by nature an incredibly interconnected business; any one individual shipment requires data transfer between multiple parties at several major points during the transportation lifecycle. This means that system-wide modernization is highly dependent on the technology investments from all players. It is impossible for individual members to truly streamline their operation and implement a more efficient and lower-cost process unless this new process is compatible with other systems used by their industry partners.

Delta Cargo has embraced our industry's push for technological advancement, and we are leading the eFreight adoption efforts in both North America and globally. Currently we are ranked No. 1 in overall eAWB usage. We closed 2012 with a domestic eAWB penetration of 45% (a 30-point increase over 2011) and also achieved a 15% eAWB penetration for international shipments (a 15-point increase

from 2011). Additionally, Delta has made significant improvements in growing online bookings, closing January 2013 with 53% of all bookings being made through an electronic channel (a 10-point improvement over last year).

To support its growth, Delta Cargo has been actively engaged with government regulators in North America to facilitate eFreight usage and has worked closely with the U.S. Customs and Border Protection (CBP) to expand the use of eAWB for international shipments. Delta Cargo is in strong support of the CBP's November 2012 decision to expand the North America and US export eAWB coverage. Delta Cargo believes that this type of collaboration is hugely valuable in advancing the air freight industry and plans to remain very active in this type of dialogue.

Additionally, Delta Cargo has been investing in internal technology to develop a suite of eFreight options which allow all freight forwarders to interact with us electronically regardless of their internal technology capabilities or constraints. Delta Cargo's direct connection application allows the forwarder's system to communicate dynamically with Delta's to exchange booking information and eAWB information without requiring the forwarder to re-enter data into a third-party system.

Focus : Although Delta has no dedicated cargo aircraft in its fleet today, Delta Cargo is still an active component in Delta's fleet acquisition. Is there any consideration for freighter conversions on any of the over one hundred McDonnell-Douglas MD-80's Delta presently has in its fleet?

Bastian : As a result of the Northwest Airlines merger, Delta did operate freighters in 2008 and 2009. As a company, we made a decision at the end of 2009 to retire the freighter aircraft and focus solely on our belly business. During the next two-plus years, our revenue and volume growth on our passenger aircraft more than made up for the loss of the freighter business, without the added expense. So, from an economic perspective, retiring our freighters was and continues to be the right decision.

That being said, we are always evaluating opportunities for growing our cargo business and if the economics made sense, we would consider operating freighters again.

Focus : Delta's worldwide cargo business includes; auto parts from Germany and Japan, plus electronics, machine parts and aircraft components from Asia. What did you find to be most surprising when developing new relationships with global manufacturers?

Bastian : Our primary relationship is with our forwarder partners and

not with the manufacturers. We work closely with forwarders to better understand the needs of their shippers, who are the global manufacturers. With their input, we work together to develop products and services to address their evolving transportation needs.

Focus : The perishable-cargo components serve seafood, fruit, vegetables and flowers from South America. As a corporate leader responsible for revenue growth and bolstering the Delta's global network, you also serve as a member of the Boards of Directors for Aeromexico and GOL. How does that relationship work and where do you see room for expansion and route development?

Bastian : Latin American is an important growth market for Delta, and we're focused on expanding via new service as well as critical partnerships with top Latin American carriers. Our recent investments in GOL and Aeromexico have expanded our partnerships with those airlines, and given our customers access to a greatly expanded network across Latin America. In turn, we provide our Latin American partners with access to our leading U.S. network, so customers in both hemispheres enjoy the benefits.

Focus : Biomedical, pharmaceutical items, and updated communication devices are the newest entry into the air-cargo market. How do you view advances in battery technology and possibly redesigning envirotainers with new shapes and sizes? Could their role as belly cargo change air-cargo shipping in the future?

Bastian : Biomedical and pharmaceutical items require specialized handling throughout the shipment lifecycle. In addition to location, some GPS devices also enable customers to monitor variables such as humidity, temperature and light exposure. This information is very important for pharmaceutical products that have strict requirements with regard to temperatures that must be maintained throughout the transportation cycle. Delta has approved several devices for use not only on our mainline flights, but on our Connection flights as well which allows shippers critical visibility in remote and rural locations.

With regard to pharmaceutical containers, batteries that provide tighter control to ensure a high degree of accuracy with regard to temperature requirements will become increasingly important to meet stricter requirements for high-value, life saving pharmaceutical shipments. Container manufacturers will need to continue to develop options to fit differing aircraft types to suit the needs of the pharmaceutical industry.

Delta has an extensive global network that includes service in many key pharmaceutical markets. We are focused on developing our pharmaceutical products that are supported by a consistent and



reliable operation to become a bigger player in this important aspect of the air freight business.

Focus : Delta Cargo makes shipping easier for their customers, by leveraging Delta's own network, as well as their JV partnership, interline agreements and other creative solutions. Delta works hard on solving logistical needs for its customers. Emerging nations give the world new workforces and thereby open new export destinations. How far in advance does Delta plan its logistics? How important are the current world events?

Bastian : Current world events are very important to our business, and the recent climate of economic uncertainty is having a significant effect on the overall market worldwide. As a global airline, Delta closely monitors GDP growth forecasts in all regions of the world, especially those in emerging markets.

And we believe that as the world economy finds stable footing, global trade will continue to grow and air freight will play a critical role in the transport of goods between countries.

In 2012, approximately \$5.3 trillion dollars worth of goods were moved by air transport.

In 2014, total world exports are expected to reach \$19.7 trillion dollars, a 44% increase from 2007.

US, China, Japan and Europe alone are estimated to export over \$10 trillion dollars in merchandise goods, which represents a 32% increase from pre-recession levels in 2007.

And emerging economies will represent 39% of total world exports compared to 33% in 2007. So, these markets will continue to grow in importance to global trade flows.

Looking forward, export growth rates are expected to stabilize in 2013/2014 and grow at a world average rate of 8% from 2014 to 2020.

The bottom line is that as the global economy continues to stabilize the outlook for cargo demand will improve, but we are in a tough industry that is very susceptible to fluctuations in consumer and business spending patterns – so we must remain vigilant about our costs and investment in improving the efficiency of air freight.



Delta Cargo

Cargo Flights, Shipping Services, Specialty Shipping

About Delta Air Lines

When the airline was founded in 1924 in Macon, Georgia, its fleet of 18 planes was solely a crop-dusting operation. In the 1920s, Delta began flying mail.

Huff Daland Dusters, the original company name, extended dusting services to Peru and started the first international mail and passenger route on the west coast of South America (Lima to Paita and Talara) for Pan Am subsidiary Peruvian Airways. In 1928, C. E. Woolman, the principal founder of Delta Air Lines, led a movement to buy Huff Daland Dusters and rename it Delta Air Service for the Mississippi Delta region it served.

Even today, Delta is known for its strong leadership. American Airlines CEO Doug Parker reached out to Delta's CEO Richard Anderson for his insight. Parker said Anderson's words were "Adopt and Go," which summarizes the importance of "Taking the larger airline's systems and processes and overlaying those on the smaller airline." Delta was built on successful mergers – the Delta and Northwest merger was enabled by Delta's experience and philosophy.

Delta has been working over the past five years to reshape its business model for long-term success, with investment moves in key partners like Virgin Atlantic, GOL, and Aeromexico. Delta has also purchased Trainer Refinery and made significant expansion at LaGuardia Airport in New York, as well making a dramatic reduction of the number of small 50-seat jets in our fleet.

Delta has invested \$3 billion in improving the customer experience with new technology and upgrades to its aircraft. Delta has seen the benefits of these investments with financial results that have outperformed the industry on unit revenues for the past 14 months. Today, Delta expects to report a modest profit for the first quarter for the first time since 2000. (For a bit of context, consider that jet-fuel prices in 2000 were about 60 cents/gallon – today it generally tops \$3/gallon). Also on the financial side, Delta expects to bring its net debt load down to \$10 billion this year (down from \$17 billion just three years ago). And later this year, Delta will announce plans to return cash to its shareholders.

Delta's operations also have benefitted from its strategic focus and investments. Delta led the nation's network carriers in on-time performance last year and was the only US carrier that improved its position in the JD Power satisfaction survey, landing ahead of rivals like United and American.

Delta's employees have shared in the company's success, with a \$372 million profit-sharing payout to 80,000 employees worldwide. Delta employees also received \$91 million in "shared rewards" payouts during 2012 for exceeding operational goals.

Cargo History

In 1934, when it received the Air Mail Route 24 from the United States Post Office, Delta Air Lines expanded services to include mail transportation. By 1946, it was a full-service passenger airline and had also started offering regularly scheduled cargo services. Throughout the next two decades, Delta continued to extend its reach by expanding internationally to offer service to the Caribbean and South America.

The cargo operation continued to flourish in 1975. In that year, Delta became the first airline to offer its own air-express service called Delta Air Express, which offered high-priority, guaranteed cargo service. And Delta continued to grow as a global carrier, beginning service to Europe in 1978 and Asia in 1988. This enabled the company to forge the first international cargo alliance with SwissCargo in 1998, followed by the SkyTeam alliance with partners AeroMexico, Air France, and Korean Air two years later.

Today, one of the unique features of Delta's alliances is its ability to share resources. With shared warehouses, Delta offers faster connections, as well as a single location to drop-off and pick-up of freight. The result is time saved for both the forwarder and the customer.

Delta Cargo's e-freight offerings include air waybills and e-booking for their customers. The company also leads the industry in e-freight, as measured by IATA, by offering a Cargo Portal Services (CPS) functionality and MAWB Capture and Print System simplification.

Delta's general products are the most economical way to move consolidated shipments. With consistent high-quality service worldwide, Delta's general products offer flexibility and value for reliable transport to meet all logistics needs. In addition, Delta's specialty products are designed to address the specific needs of special cargo, from live animals to perishables, including human remains, high-value firearms, pharma, and wheels.

GPS service is Delta Cargo's express and premium product-service enhancement. Proudly offered on every flight in Delta's global network, including Delta Connection, GPS provides an added layer of reliability that allows for monitoring and tracking throughout the entire shipment.

life cycle. Delta Cargo has also formed an exclusive partnership with OnAsset Intelligence, the leader in global airfreight tracking. Through this partnership, Delta Cargo customers enjoy streamlined tracking of their GPS-enabled shipments through deltacargo.com, discounts on SENTRY devices and service plans, and first access to the latest technology and products from OnAsset.

In December 2012, Delta launched a dedicated deltacargo.com website with a more intuitive, point-and-click process for booking, acceptance, tracking, enhanced booking, maps, weather info, and more. DL had also put in place a Customer Resolution Team including a 24/7 operation for tracking and service recovery. Delta Cargo is proud to offer GPS on every flight in its global network, including Delta Connection® and trucks. With over 4,900 daily departures, GPS is available on more flights than any other carrier in the world.

Tony Charaf Speaks at JFK Air Cargo Expo 2013

Tony Charaf, Delta Air Lines s.v.p and chief cargo officer, was the keynote speaker at the 14th Annual JFK Air Cargo Expo 2013 on March 21st. This event brought together industry leaders to discuss the future direction of Air Cargo in New York and around the world. This year's theme was "Structural Changes and New Efficiencies."

Tony discussed his views on the challenges and opportunities facing the cargo industry. Specifically, he addressed the volatility the air freight industry has experienced over the last several years. He noted that "transportation and logistics is a turbulent industry due to our extreme vulnerability to external factors including business and consumer confidence."

However, despite this recent turbulence, air freight will continue to play a critical role in global trade, especially in the movement of time-sensitive and high value products. To ensure that air freight remains a competitive mode of transport, Tony stated that the industry must focus on three key issues: securing the supply chain, continued customer focus and modernization of shipment processes through adoption of eFreight initiatives.

Tony also highlighted the investments Delta Air Lines is making corporately in the New York markets including the enhancements to the LaGuardia and John F. Kennedy airports. JFK continues to be a top cargo market and these investments will help to grow both our passenger and cargo presence in New York.

business with us, Delta Cargo has launched a new website specifically designed to meet the needs of cargo customers. Delta's goal is to provide customers with the tools and information needed to ship with, in an easy-to-use format.

The new website includes an improved design that enables easy navigation to key content, a simplified enrollment process for new and existing customers and enhanced shipment tracking, including the ability to sign up for email notifications.

Delta's goal is to establish an easy to use and informative website.



Delta Cargo launches new website

As part of our commitment to make it easier for customers to do



CLICK HERE: To learn even more about Delta Cargo Services.
<http://www.deltacargo.com/>

From the Top

John Lloyd, Director of Cargo, Virgin Atlantic



John Lloyd, Director of Cargo, Virgin Atlantic

Photo courtesy Virgin Atlantic

Virgin Atlantic Cargo thrives on the global stage but never loses sight of its roots.

Virgin Atlantic Cargo has always liked to be different, no doubt inspired by the airline's flamboyant and hugely successful founder, Sir Richard Branson.

The airline has never wanted to be the biggest. It is simply passionate about being the best, placing its customers at the heart of everything it does. When you're trying to compete in the big wide world of aviation and you're not the biggest player in the game, you have to be extremely good at what you do, and for the past 28 years, Virgin has used its edgy brand and commitment to customer service to successfully stand out from the crowd.

Virgin Atlantic Cargo is actually a lot bigger than many people think and is no longer the niche carrier it once was. Offering services in

Europe, North and Central America, Asia Pacific, the Middle East, South Asia and Africa, along with a highly successful partnership with Virgin Australia, the carrier operates to 350 destinations worldwide.

Richard Branson started the business with a fresh visionary outlook in 1984 and the airline has never forgotten its roots.

Our belief is e-AWB will drive efficiencies through our data- capture and goods-acceptance processes, and deliver improvements in overall data integrity, which will ultimately help us plan and allocate capacity more effectively.

As John Lloyd, Virgin Atlantic's Director of Cargo, explains: "The entrepreneurial spirit that started the airline is something we have worked hard to maintain. For us, it's all about offering great customer service and always focusing on what our customers want today and tomorrow, not what we think they need. We've actually just carried out some customer research in the U.S. market and the feedback is that we are seen to be approachable, reliable, offer a consistent service, that we care and fun to work with. I'm proud of that because it's exactly what we aim for. No one gets everything right all of the time but we're responsive to what customers want and they are extremely loyal to us as a result."

Air Cargo Focus asked John to tell us more about Virgin Atlantic Cargo and how he sees some of the challenges facing the air-cargo industry:

Focus : Ever since the first air-cargo shipment in 1910, this industry has had its share of challenges. It seems that, as one problem is resolved, a new one is presented. What issues are on the horizon that the air-cargo industry should be aware of?

Lloyd : You're quite right. We've been through regulation, deregulation, the first and second Iraq wars, 9-11, bankruptcies, skyrocketing fuel prices, and of course the global financial crisis and its impact on world trade. For an industry often perceived as just moving



boxes from A to B, the air-cargo industry is never in short supply when it comes to interesting challenges.

Fuel price is obviously still one of the most pressing challenges with IATA recently increasing their forecasting price of oil this year from \$99 a barrel up to \$115 a barrel. High fuel prices have the double effect of not only increasing the costs of shipping cargo by air, but they also impact demand. This would be bad enough under normal circumstances, but in the current economic environment, with slow

economic growth and the European crisis further undermining demand, it's proving particularly challenging. The freight forwarders meanwhile have responded to this challenge by further consolidating, and the market is now dominated by a few very large players, increasing their bargaining power with the airlines.

All the while, industry capacity has if anything increased, mostly thanks to Middle Eastern and Chinese carriers' expansion, and the 2010-2015 period will see significant delivery of large factory-built freighters

including B747-8F, B777F and A330F aircraft types. At the same time sea, train, and truck freight have seen technological and process improvements as well as better integration, making them possible alternatives to air cargo and consequently they are showing faster growth.

While we share the public concerns for the environment, it seems that politicians increasingly see the airline industry as an easy target of taxation, which is often disproportionate to the industry's CO₂ footprint. Increasing security and other regulations are also having a negative impact in an industry that sells speed of delivery. Political instability is a constant threat to air cargo, both directly as well as indirectly via impacts on our cost base, notably oil prices.

Focus : Everyone is discussing e-freight. What are some of the possible standardization solutions you embrace?

Lloyd : Our belief is e-AWB will drive efficiencies through our data- capture and goods-acceptance processes, and deliver improvements in overall data integrity which will ultimately help us plan and allocate capacity more effectively. It will also improve the quality and timeliness of reporting to Customs authorities, reducing retrieval times for our customers, and allowing us to invoice our customers with even greater accuracy.

Focus : Adding a new destination is both necessary and complex. How do you evaluate route development?

Lloyd : As a passenger airline, the potential passenger market will carry the most weight in making a decision on a new route, but overall route development is assessed on a profitability basis that considers all streams of revenue and cost, including both passenger and cargo. These factors are weighed up against existing capacity in that market, alongside issues such as regulation and infrastructure including appropriate airport-slot availability and other potential risks and rewards. We will model the effect of Virgin entering the market and estimate the share of market we feel we could gain as well as the stimulating effect on demand. Future prospects, as well as integration into our network will also be taken into account.

Focus : What future regions of the world will we see Virgin Atlantic Cargo expand and why?

Lloyd : We successfully launched our Mumbai service in October last year and return to two North American destinations with Chicago and Vancouver in May. Our successful cargo joint venture with Virgin Australia, which began with their first long-haul flight from Sydney to Los Angeles in February 2009, as well as the trucking and interline agreements we have in place, means we can already offer our

customers a choice of over 350 destinations worldwide. We naturally keep an eye on developments around the world to try and identify other promising opportunities. If the right opportunity came along, for example, to supply an outsourcing solution for an airline – similar to what we do with Virgin Australia – we would certainly look at that.

The purchase by Delta Airlines of 49% of Virgin Atlantic is progressing towards passing the final regulatory approvals to close the deal. However, for the time being at least, it remains very much business as usual for us. For now we are very much two separate airlines competing in an ever changing industry. We will be speaking to our counterparts at Delta over the coming months to explore the scope for co-operation which we hope will produce some exciting new opportunities for our cargo customers.

Focus : Specialization is a much-used word, but in cargo it does make a difference. What products does Virgin Atlantic Cargo offer to sway the pharmaceutical or perishable industries?

Lloyd : We already carry high volumes of both pharmaceutical and perishable cargos. In terms of the pharmaceutical industry we are developing a more-enhanced product offering and as part of this we are currently in discussions with temperature-controlled-container companies and logistics specialists to consider the options available. We won't launch anything until we are confident it is exactly what our customers want.

Focus : Which industries best fit the Virgin Atlantic Cargo model?

Lloyd : Virgin Atlantic Cargo is known for great customer service, so all industries where customers seek excellent service provide a good fit, in particular highly valuable, time-sensitive products. Our model includes a wide variety of industries to reflect the differing nature of the global markets we serve, from live animals, to perishables in Africa to the latest consumer goods from South East Asia. We know we're good at moving luxury and racing cars, which also create great excitement among the enthusiasts within our team. We are proud that over the years we have transported many vehicles that have gone on to win important motorsport events..

Focus : Regulations are a natural consequence of world events. Where do you see changes needed to present restrictions, and how would they benefit the consumer?

Lloyd : We accept the need for regulation but one of the biggest challenges and costs is the unilateral approach taken by nations. Security is the best example with different standards still being applied around the world. This simply adds time and cost, and, inevitably these costs get passed through the supply chain and land on the consumer.

Global standards would be a huge step forward.

Focus : Each industry has key trends it watches. What is important to Virgin Atlantic Cargo and what do you see for its future?

Lloyd : Clearly supply-and-demand trends, including economic factors and fuel prices are important in the short-term, as these have an effect on our immediate profitability. Looking a bit beyond that, various manufacturing and economic trends are important in the cargo industry to forecast both growth and decline in the market. For example the growth in the smartphone market has had a huge impact on airfreight demand from the Far East, as will any future changes in geographic production lines.

Virgin Atlantic Cargo's priority remains the same as it always has been, offering a customer-driven service with an emphasis on value for money, quality, fun and innovation. And despite the challenges we are nevertheless optimistic for the future. Process optimization within the industry, with such initiatives as e-commerce, e-freight and IATA's Cargo 2000 initiative should increase the competitiveness, quality and efficiency of the air-cargo industry versus alternative modes of transportation and help us in particular to continue offering superior

customer service.

Focus : You are a well-known advocate for fossil fuel alternatives. What is your most hopeful vision for the airline industry?

Lloyd : That together with key stakeholders – like policy makers, financiers and NGOs – we can pioneer, support and accelerate the deployment of truly sustainable alternatives to kerosene, so that aviation has a low-carbon, fuel-secure future. For example, we're working with LanzaTech to develop a ground-breaking new fuel, made from waste industrial gases, with 50-60% lower life-cycle carbon emissions than the standard fossil-fuel alternative. LanzaTech plans to be producing fuel in commercial volumes by 2014.

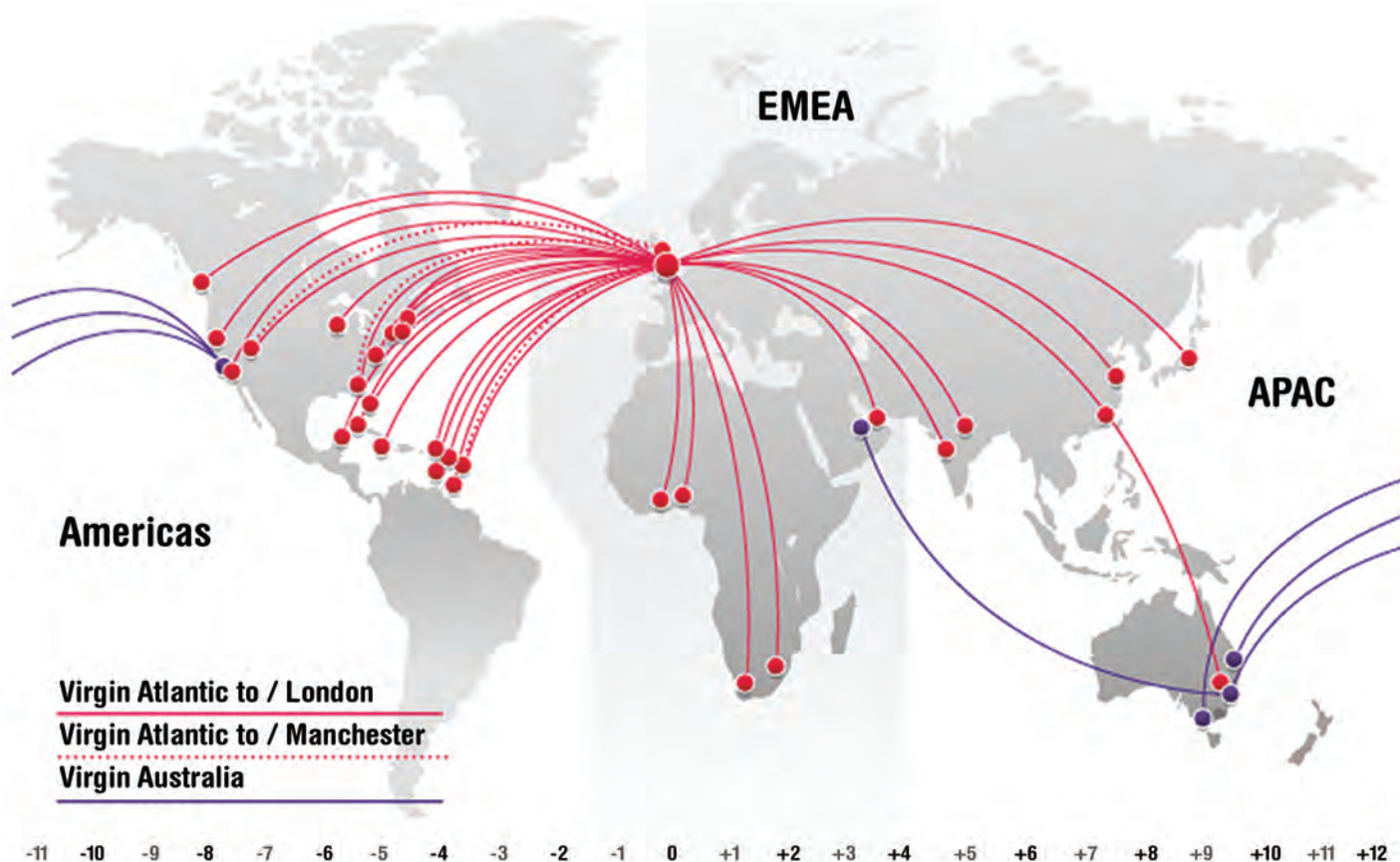
Focus : What is key to the express side of your business?

Lloyd : The key is simplicity, particularly when it comes to airport processes. Obviously speed is the whole point, so you have to keep things simple, such as facilities with easy airside access and quick drop-off and collections.

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Virgin Atlantic Cargo's network covers more than 350 destinations worldwide.

Virgin Atlantic Cargo is continuously expanding via new routes with its direct and onforwarding network, and through its partner Virgin Australia.



Virgin Atlantic Cargo

Cargo Flights, Shipping Services, Specialty Shipping



About Virgin Atlantic Cargo

Virgin Atlantic Cargo states, they are passionate about cargo. Its teams and offices around the world are its strongest, and most valued asset. Virgin Atlantic Cargo, gives freight the full treatment ensuring its journey goes smoothly by focusing on consistency and reliability.

The Products

Virgin Atlantic Cargo kept its product range straightforward so the focus can be on what's important, getting cargo shipped safely, on time and on budget.

Virgin Atlantic Cargo, takes a customer focused approach making it one of the world's most respected international cargo organizations. It offers simple and reliable service, with added flexibility should the need arise.

Virgin Atlantic Cargo aims to work with their customers around the world, offering solutions to meet individual needs.

General and Must Ride Cargo

Perfect for non-specialist cargo. Virgin can ship to any Virgin Atlantic Cargo destination and beyond, thanks to its wide-ranging network and partner airline - Virgin Australia. Must Ride means if it's urgent, it must ride. So that is what Virgin offers, a guarantee that it will fly cargo as booked.

Vex and Pets

VEX is Virgin's express courier product for all urgent airport to airport shipments. Speed and efficiency are Virgin's key drivers for VEX, offering later close out times and a service second to none.

Calling all Pet Agents, take advantage of Virgin's renowned flexibility and offerings for a fantastic, safe and reliable service to all pets, cats and dogs - travelling on the Virgin Atlantic Cargo network. In addition Virgin carries specialist products including, for example perishables and valuables, we are also here to help you find bespoke solutions to meet your needs.

The Virgin Fleet

Together with our partner airline - Virgin Australia, we operate one of the youngest fleets in the sky, offering you great capacity to all of our destinations. The Virgin fleet includes:

Fifteen Airbus A340-600s, which entered into service with Virgin Atlantic as Airbus' launch customer in 2002. The 600 series is 75.3 metres making it the longest civil aircraft produced.

Four Airbus A340-300s, this is a four engined long-range aircraft from the Airbus 'fly by wire' family and is assembled in Toulouse, France. Virgin Atlantic added its first A340 in 1993.

Eight Airbus A330-300s and two on order. The A330-300 joined the Virgin fleet in 2011. This aircraft is the largest member of the twin

engine A330 family and has a wingspan of 60.3 metres, with an overall length of 63.69 metres.

Thirteen Boeing 747-400s, which consumes up to 13% less fuel than previous versions and engine noise levels are half that of the original 747's in the 1970's.

Five Boeing 777-300s, the aircraft that makes better use of fuel, meaning lower emissions thanks to a new wing, more efficient engines and a lighter structure.

Virgin offers a wide range of equipment along with specifications and sizes, that are acceptable for carriage on all our aircraft and partner airline, Virgin Australia.



CLICK HERE: For further information and to contact your nearest Virgin Atlantic Cargo Office.
<http://cargo.virgin-atlantic.com/gb/en/index.html>

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With IATA Cargo Security Training, you have the ability to redefine cargo skills and move forward in the industry.

Air Cargo is a fundamental part of our economy. It transports more than a third of world trade by value. It provides employment for the professionally trained. Tony Tyler, Director General and CEO, IATA stated, "Well trained, knowledgeable and talented people are the cornerstone of our business. To thrive, airline managements and individual airline professionals must make the right decisions continuously to build and reinforce relevant skills and knowledge."

To aid new and seasoned cargo professionals, plus strengthen Florida's international trade and exports, an advanced initiative was set into action. Starting August 2011, Workforce Florida joined with private business and public education providers announcing a \$2 million dollar training and career education initiative that will benefit hundreds of current and future cargo workers. \$600,000 of these funds were allocated for Quick Response Training grants to train up to 600 people who work for air cargo related businesses. As a member of the Air Cargo QRT Statewide consortium project, Broward College identified CNS/IATA as the primary training provider to execute the air cargo training under this program, with an eye toward boosting productivity and competitiveness for Florida companies to increase the state's export volume.

To accomplish this task, CNS/IATA is offering over 40 courses on various topics designed specifically for the air cargo sector, such as management and leadership, technical skills and specialty cargo. Customization is available upon request and courses are held either at their Miami Training Center or on-site at companies who have ten or more participants to train on the same subject. By 2012, over one hundred employees were successfully trained. Florida-based air-cargo employees under the QRT Training Grant hope to train an additional 500 more in 2013 before the funds expire.

Through the exposure that the QRT Grant has provided, CNS/IATA Training and Development Institute has been able to support the local cargo community in Florida by providing air cargo professionals with the insight and tools necessary to overcome challenges that exist in the industry today. Through a comprehensive offering of cargo training

courses, air cargo companies have learned to raise profits, lower costs, avoid risks, anticipate trends, invest in innovation and thrive in today's business environment.

Ground Zero- The need for a substantial commercial aviation security program became evident as early as the 1970's when aircraft were more and more frequently hijacked, generally by desperate individuals for personal reasons, or to make a political statement. Initial security measures were directed primarily at preventing passengers from taking weapons on board an aircraft. A dramatic addition to the focus of aviation security came after the Pan American Airways bombing of flight 103 out of London in 1988. The bomb was placed in the aircraft as checked baggage, and subsequently aviation security measures in the area of hold baggage were strengthened.

Regulatory authorities around the world have also recognized the potential vulnerability of air cargo, and security measures to counter that exposure have been promulgated.

The 9/11/2001 attacks in the United States further heightened awareness of the issues, and the threat related to air cargo was clearly demonstrated again in the event of a bomb concealed in ink toner found on UPS plane originated from Yemen and arrived in the U.S. The cargo security measures are constantly under evaluation and subject to revision based on threat and risk assessment.

Course Objective: The IATA Cargo Security Course is based on the International Civil Aviation Organisation (ICAO) Annex 17 requirements. The objective is for participants to gain a basic understanding of the worldwide cargo security regime, and to obtain specific knowledge of potential cargo security program options that may be utilized around the world.

The course includes discussions of threat and risk assessment, management of cargo security and facilities, and analysis of the most recent security initiatives. Interactive hands on exercises are utilized to assist in the participant's understanding of the subject matter.

Prepare your business to meet the latest cargo security regulations.

Recent air freight terror plots have triggered authorities to address vulnerabilities in the cargo chain and tighten regulations around the world. Emphasizing threat assessment and planning techniques, this course helps air cargo businesses face the new challenges of regulatory compliance. Learn common industry practices and how to apply them in your operations using hands-on simulations and exercises.

The cargo security measures are constantly under evaluation and are subject to revision based on threat and risk assessment. Knowing the subject and its rules is a valuable tool for employment placement and advancement. Some of the courses available are as follows:

"Some of the highlights from the training were the exercises and then the group project where we had the opportunity to use the acquired knowledge for our presentations".

Cargo is one of the high revenue generators for JetBlue and we aim to not only deliver our Customers' cargo on time, but to also ensure we provide it in safe, secure and efficient manner. The Cargo Security Course provided us with key insights and knowledge on cargo incidents and best practices for ensuring our JetBlue cargo is protected throughout our network. Our IATA Cargo Instructor, Omar was an excellent facilitator, providing a forum where we were not only encouraged to ask questions, but to also challenge ourselves to focus further on security and potential threats during our group project, where we reviewed and critiqued our peers' presentations.

Nigel Chung, Manager Airports Training, JetBlue Airways

Security Course Objective- This Course is based on the ICAO Annex

17 requirements. The objective is for participants to gain a basic understanding of the worldwide cargo security regime, and to obtain specific knowledge of cargo security program options. Interactive hands-on exercises are utilized to assist in the participant's understanding of the subject matter.

IATA Dangerous Goods Regulations (DGR)- Learn how to use IATA's Dangerous Goods Regulations Manual and complete the necessary dangerous goods transport documents. Develop a working knowledge of the legal responsibilities involved with the transport of dangerous goods. An IATA Certificate is awarded upon successful completion and final examination.

Cargo Skills and Procedures- This course will provide participants with a solid background and improve their capabilities. Cargo and recently recruited station managers, commercial cargo and ground handling staff, without previous formal training, will benefit from IATA's certification program and ensures that professionals keep up with evolving challenges. This certification program is aimed at aviation executives.

Professional Skills for DGR Instructors- For those who design and deliver Dangerous Goods (Hazmat). This course focuses on techniques and strategies to ensure an effective mix and flow, and concludes its training session with an emphasis on knowledge transfer as it applies to the job.

"As a new cargo professional, I found the IATA Advanced Cargo Procedures class to be very interesting and informative. The skills acquired during the class have aided me in performing my duties with a much deeper knowledge."

Adriana Salazar, DB Schenker-MIA,
Sr. Account Executive

Advanced Cargo Skills and Procedures- This study highlights topics on air-cargo operations in order to successfully manage the movement of freight through the global supply chain. This course, designed for

those who already have a basic understanding of air cargo, introduces more advanced concepts and details its intricacies.

Managing Air Cargo Operations- Learn effective techniques of managing air cargo operations in order to save money, avoid risks, enhance operations, and thrive in today's business environment. This course helps you to develop and execute an effective air cargo operations strategy.

Air Cargo Management- Cargo management faces challenges as never before. This course is designed to give managers a better understanding of the new cargo environment. They can learn to avoid costly strategic and tactical errors and thereby help to improve their company's overall competitive performance.

Professional Air Cargo Supervisor- Making the transition into the role of a supervisor can be difficult without the proper tools. A five day course teaches proven management techniques that can be put into action immediately. Leverage both your cargo and people skills to meet managerial challenges with confidence and tact

Cargo Marketing Essentials- The air cargo business has grown from a marginal airline strategy into a major revenue source that is vital to the profitability of most airlines. In this situation, competitive advantage becomes a key strategy for cargo managers. This course will provide you with the background knowledge and information to keep your company ahead in this highly competitive field.

Live Animals Regulations- If you ship or accept live animals by air, you have to know how to use and comply with the "IATA Live Animals Regulations" which is now the law for transporting live animals within, through and to the European Union. In addition, these regulations are the official transportation guidelines for many countries.

Shipping Perishable Cargo- Gain the knowledge required to ship perishable cargo safely and comply with industry standards. This course provides detailed insight into handling perishable cargo, and practical knowledge of the most up-to-date regulations regarding the air transport of perishable cargo. An IATA Certificate is awarded upon successful completion and can be applied toward an IATA Diploma.

"Just a quick note to say thanks to the CNS team for the information

garnered at the IATA course for Temperature Sensitive Cargo Handling. I came away with knowledge and understanding, in addition to the comprehensive course preparation demonstrated by the IATA instructor. Our company took advantage of the Florida Grant that was offered through CNS allowing employees to gain valuable industry knowledge"

Jorge Santana, Human Resources Manager,
Compliance Officer, Ocase Inc.

Temperature Sensitive Cargo Handling- The global pharmaceutical logistics market is valued at \$30 billion. Pharmaceuticals are the most regulated, and fragile cargo in the world today. This course will certify you, using interactive and competency-based learning. Learn best practices in handling time and temperature-sensitive products in the air-cargo logistics process. An IATA Certificate is awarded upon successful completion of the course and final examination.

ULD Handling Fundamentals- The management of ULD assets presents a major challenge for airlines. Lost ULDs need replacing, often at considerable expense, and incorrect handling can result in damage leading to costly repairs or asset write offs. This course provides working knowledge and skills of ULD handling, and complies with authority requirements for training of all persons involved in ULD operations. Included are training requirements specified in FAA AC 120-85 Sec. 268, 269.

Cargo Business Development for Airports- This course will help market your airport more effectively. Bringing profitable new business to an airport is challenging. An understanding of the challenges in the facilitation of air cargo business is key for airport operations to develop the cargo business. Understand what drives the business, how decisions are made, the financial impact of air-cargo and how to bring more air-cargo business to your airport.

International Air Cargo Law - This course looks at the impact of air cargo law developments on the airline business, and provides approaches and solutions to the complex air cargo law issues. Identify the legal challenges faced by e-freight and e-airway bill. Recommended for Government officials involved in the air transport sector

“It was a great pleasure to work with Rocio Vegas of CNS and Theresa Light of IATA to set up this Cargo Proration course. We wanted a customized course that would have a participant group with similar experience and knowledge on the subject. Our combined efforts and good communication made this training a huge success. The course leader knew the subject very well and was very proficient teaching the somewhat difficult matter of proration and Interline matters. I would be happy to attend more courses offered by IATA and CNS.”

Carmen Goehrig, Business Support and Quality Manager,
DHL Aviation Americas Inc.

Cargo Proration - The objectives of this course are to ensure that your airline receives its correct cargo revenue entitlement in the current high cost and competitive environment. Learn to apply the correct cargo proration articles and compute air waybills correctly. Assess the revenue entitlement of an air waybill or route sector in accordance with the Multilateral Prorate Agreement – Cargo (MPA-C). Recommended for managers, supervisors and officers dealing with proration, cargo sales, interline billings, rejections and disputes. An IATA Certificate is awarded upon successful completion of the course and final examination. This course also applies toward an IATA Diploma.

Alternative Fuels - IATA is dedicated to supporting its members and the entire air transport industry to reduce emissions of CO₂.

Alternative fuels, particularly sustainable biofuels, have been identified as one of the key elements in helping achieve this goal. Biofuels derived from sustainable oil crops such as jatropha, camelina and algae or from wood and waste biomass can reduce the overall carbon footprint by around 80% over their full lifecycle. Test flights using biofuels have been carried out by dozens of airlines and have proven that biofuels work and can be mixed with existing jet fuel. The airline industry has played an instrumental role in advancing technical certification for biofuels which can now be used on passenger flights. The first commercial flights using biofuels were achieved in 2011.

IATA is committed to making airlines' transition to biojet fuel as simple as possible. This first version of the IATA Guidance Material for Biojet Fuel Management (the BioGuide) incorporates the following four topics, each contained in its own chapter: (1) technical certification and handling of biojet fuel, (2) biojet sustainability certification, (3) compliance with emissions regulations, and (4) purchase contracts and insurance.

Sustainability - Sustainable development – a balancing act.

Sustainable development seeks to balance social, economic and environmental objectives in order to secure the well-being of present and future generations. These objectives are interdependent and thus equally important. Finding the optimum balance means that difficult choices sometimes have to be made and concessions may be required.

Aviation is a good example of this: it is a consumer of non-renewable resources, a contributor to climate change and local noise problems but at the same time it makes a very valuable and unique contribution to the sustainable development of our global society.

Our role in society, economy and the environment

Aviation is the safest, most efficient means of public transportation. Over long distances and across geographical barriers, no alternative means of transport exist. Aviation's vast network of affordable transportation services offers freedom to travel for nations, regions and individuals and facilitates the exchange of cultural and educational experiences. Many outlying communities would be isolated without access to air services.

Aviation fosters economic development by providing and enhancing access to regional and global markets. It is a key driver of business, it raises living standards and alleviates poverty, which is conducive to less environmental degradation and a more sustainable society.

The air transport industry generates 57 million jobs worldwide. Its global economic impact is estimated at US\$ 2,2 trillion.

Aviation in a sustainable context

Public demand for air travel is continually growing. Efforts within the industry to improve the environmental performance of its economic activities, however, must and will continue.

To interpret sustainable growth as “growth without environmental impact” – as advocated in some circles – ignores the significance of socio-economic values in the sustainability equation, thereby corrupting the very essence of the concept. Sustainable development should not be confused with environmental conservation; although closely linked, they are not the same. Environmental issues should be firmly placed in the wider context of sustainable development, striking a balance with social and economic objectives.

Our Instructors

Quality training starts with the right instructors. That is why we hire only the most qualified instructors to deliver our courses at our IATA Training Centers, in-company sessions and regional partner locations.

We work with more than 200 official IATA Instructors, IATA employees and sought-after consultants from around the world with at least ten years of experience in their respective fields. Each instructor has undergone rigorous assessment and instructional training to ensure they have the skills and expertise to deliver practical training with results.

Our instructors are dedicated professionals and it shows – participants consistently score our instructors over 90% on course evaluations for their knowledge of course content and ability to transfer skills in the classroom.



CLICK HERE: For further information on IATA Security Training.
<http://www.iata.org/training/courses/Pages/Index.aspx>

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“LAN CARGO is focused on two distinct areas, international operations and the Brazilian domestic market.”

Mr. Cristian Ureta, CEO, LAN Cargo





Pictured here is LAN CARGO's 777F

From the Top

Cristian Ureta, CEO, LAN CARGO



Cristian Ureta, CEO

Photo courtesy of LAN Cargo

We are fortunate to have Mr. Cristian Ureta, CEO, LAN CARGO with us today. Mr. Ureta also serves on the LATAM Airlines Group Management Team as Senior Vice President Cargo.

Focus : How are you planning to integrate TAM Air Cargo into LAN CARGO?

Ureta : From day one, we had a clear plan for the association of the TAM cargo business and LAN CARGO focused on two distinct areas: international operations and the Brazilian domestic market. On the international side, LAN CARGO, as with its other affiliates, has worked with TAM's cargo business to jointly achieve operational efficiencies already existing under the LATAM Airlines Group. This was quickly accomplished one month after the association was finalized. For instance, TAM's use of third parties at international hubs where LAN CARGO had a direct presence made it relatively easy for both companies to take advantage of these efficiencies.

The Brazilian domestic market is different. TAM has an important presence, so the company will continue to operate there. At the same time, LAN CARGO's Brazilian subsidiary, ABSA, will continue to

operate three Boeing 767-300 freighters domestically. And, subject to government authorities these two businesses will associate to form TAM Cargo.

Focus : The merger of these great two airlines puts the new company just outside the world's top ten.

Will LAN CARGO and LATAM Cargo be the same?

Ureta : Both companies will work as part of a single group to fully leverage the existing synergies. However, from a branding perspective, LAN CARGO and TAM Cargo will be present.

LAN CARGO will continue to operate internationally, while the Brazilian domestic market will be operated by

TAM Cargo, subject to government approvals. LAN CARGO and its affiliates' vision is to be one of the five best air-cargo transportation companies' in the world in five years.

Focus : This merger has created a new aviation giant in Latin America and one of the largest cargo carriers in the world. TAM is the biggest airline in Brazil. The cargo between Europe and Brazil is huge and Lufthansa, KLM, Martinair and Cargo Lux presently dominate it. The LANTAM merger affords new fleet size. How will the Group take advantage of this fact and will it expand? What new destinations are projected in your growth plans?

Ureta : LAN CARGO's current focus is to take advantage of the vast potential the extensive network of passenger flights operated by LAN and TAM, which allows us to become the leading airline group in the US-Latin America and Europe-Latin America markets. The key is to connect these networks, which is a major commercial, operational and technological challenge. So far LAN CARGO and its affiliates have been very successful moving cargo from Latin America's Southern Cone to the United States and Europe using the cargo holds of TAM's passenger flights via Sao Paulo and Rio. That was our first big step.

Now LAN CARGO is considering new routes in order to expand the network, but that will depend in part, on LAN and TAM's passenger division plans.

One important reason for this association was the potential of combining both networks— since LAN covers the Andean countries in South America such as Colombia, Ecuador, Peru and Chile, and TAM covers Brazil extensively, connecting Europe. Now both companies work as part of a single group to fully leverage their existing synergies

Focus : How have restrictive bilateral agreements slowed aviation advances and how do you see them evolving in the next ten years?

Ureta : We see many opportunities in further open-sky countries, particularly in our region, where the bilateral agreements have traditionally been very restrictive. LAN CARGO is working with some authorities in order to promote the liberalization of restrictions, resulting in the enhancement of the industry's competitiveness. Despite the fact that we have a lot of road ahead, we are confident that progress will be made in the near future, since air transportation

is increasingly useful for individuals and trade.

Focus : Airport infrastructure is an expensive undertaking. In Latin America this has always been a hot topic for debate. Are private/public partnerships an answer for the airports?

Ureta : One of the main barriers we see for the industry's development in Latin America is the airport infrastructure. This is especially true for the cargo operation, since the focus normally is on the passenger area. We believe this is a mistake as cargo and logistics are an enabler of a country's productivity and trade efficiency. Many airport authorities understand that, but sometimes the solutions are too expensive, as poorly designed public auctions usually generate a big incentive to charge users extremely high prices. Maybe some individuals believe that air transport can afford high costs; however, overcharging reduces the competitiveness of many industries, beyond that of airlines.

Focus : The LATAM Airlines Group delivers 1.1 million tons of cargo to 27 countries with 169 destinations. Maintaining quality in this new-sized group must be a top consideration. What steps are being taken to ensure customer satisfaction and reliability?

Ureta : LAN CARGO and its affiliates must provide the best service if we want to continue to be customers' preferred carriers. The companies are working on several initiatives to match what customers need, connecting them with the world, and offering the best network in Latin America, while maintaining their flexibility and efficiency.

Focus : LATAM now has four main hubs, which bring new opportunities. What challenges do São Paulo, Santiago, Lima and Bogotá have in common? How do you plan to integrate these hubs?

Ureta : The main challenge is connectivity. LAN CARGO and its affiliates want to offer gateways with the best connections within our network; our final objective is to increase load factors throughout the network. This is done by carefully planning capacity and achieving flawless operational performance at each hub. The infrastructure and customs procedures are crucial too.

Focus : Mergers in different nations present new challenges and take time to implement. Since the merger what efficiencies have you found to be an improvement to the Group?

Ureta : One of the most important reasons for this association was the potential of combining both networks, since LAN covers the Andean countries in South America (i.e., Colombia, Ecuador, Peru and Chile), and TAM covers Brazil extensively, connecting Europe. The first synergy was to take advantage of those networks while increasing cargo-load factors in passenger flights. The companies' coordination and payload optimization have been key. We have expanded the sales points beyond the TAM gateways, and made a coordinated effort to exchange cargo between the different gateways such as Milan, Frankfurt, or Paris. The idea is simple: balance demand with capacity by finding complementary routes. Another way to improve efficiency has been the combination between passenger aircraft and cargo capacities, allocating the best cargo for bellies, so as to increase the cargo payload.

Focus : Airport security in the United States is a high priority. What suggestions should be considered that would help the cargo industry?

Ureta : LAN CARGO believes that all of the industry -including the authorities- need to work together to find the best practices and risk-mitigation procedures. IATA is making a great effort to help the industry achieve high safety standards with ideas that are effective while considering competitiveness too. Safety is our first priority, and the most important for an airline. In fact, LAN CARGO and its affiliates have always followed the best safety and security standards and are open to participate in any attempt to improve it.

Focus : How will the new oneworld airline alliance affect the new company after it joins?

Ureta : The alliance election does not represent any issue for LAN CARGO, since our interline agreements and alliances are independent to that of the passenger operation.

Focus : The total market capitalization of LAN and TAM, at \$13 billion dollars is bigger than that of any other carrier. What size growth will be necessary to sustain these investments and meet analysts' expectations?

Ureta : It will depend on the profitability. The main focus is to take advantage of the potential synergies to improve the unit earnings. Growth will be the product.

Focus : If possible would LAN CARGO choose to operate all its freighters in the future?

Ureta : LAN CARGO has created a comprehensive freighter network, unique for its coverage, efficiency and quality. While we are sure that this model can be improved, the networks and the ability these provide to better utilize aircraft interchange is an advantage, not a problem.

Focus : What is the five-year business plan for LAN CARGO in Asia and Europe. What other countries would be included?

Ureta : LAN CARGO wants to be the best air-transport option to Latin America. While this means offering the best connections between Latin America and the world, this does not mean we have to operate everywhere. We have to operate where we see advantages. Where we don't have them, we will find the best partner to do so. Asia is a good example.

Focus : Will marketing and sales be under a LATAM Cargo or will it stay individualized as it is today? (Lanco, TAM LAN, LAN Peru etc.)?

Ureta : LATAM Airlines Group is a group of affiliated companies with a common vision, identical service standards and shared culture of efficiency. However, the marketing-and-sales approach is customized to local needs. Therefore it is important to maintain some brands, including that of LAN CARGO. Nevertheless, this might change in the future if, as a group, we decide to move to a common master brand for all passenger and cargo operations.

Focus : Cargo yields are dropping in some major markets such as Bogotá-MIA and MIA-Brazil. How will LATAM Cargo address future rising costs?

Ureta : LAN CARGO understands the market dynamics when freighter fleets and cargo capacities are over-designed, or when demand does not increase as expected. That is the reason why LAN CARGO needs to be extremely efficient. In fact, our strategic plan continuously includes initiatives directed to the improvement of our competitiveness by constantly avoiding unnecessary costs and improving productivity. Technology, well designed processes, and trained and motivated individuals are key factors

Focus : Thank you Mr. Ureta for taking the time to speak with us. We wish LAN CARGO and LATAM a successful future.

»»

LAN CARGO the largest combined air-cargo operator in Latin America, is committed to building a lasting future.



To appreciate LAN CARGO, you need to understand its fast-paced 84-year-old corporate history. We often take for granted that LAN CARGO and its subsidiaries (ABSA, MAS AIR, and Línea Aérea Carguera de Colombia) were always the largest combined air-cargo operator in Latin America. It is fair to say that the airline began operations in 1929, based on the original cargo divisions of LAN Chile, founded by Arturo Merino Benítez, as Línea Aeropostal Santiago-Arica (English: Postal Air Line Santiago-Arica). In 1932, it was rebranded as Línea Aérea Nacional de Chile (English: National Air Line of Chile), using the acronym LAN-Chile as the commercial name.

But Benítez was also an expansionist, in 1938, a joint cooperation agreement was established with carriers Faucett and Lufthansa enabling flights to Europe and America. Because of its Lufthansa affiliation, LAN-Chile became a member of the newly formed IATA in 1945. LAN Cargo S.A. is the cargo subsidiary of LAN Airlines operating cargo flights in South America and North America. Its main base is Miami International Airport.

In 1989, the Chilean government sold the majority interest of its shares to Chilean investors and to the Scandinavian Airlines System (SAS), so the privatization process began.

In 1994, the partners, company controllers, and other main shareholders acquired 98.7% of the company's assets, including the state-owned portion. Soon LAN began an expansion process unlike any carrier in Latin America. In 1998, Fast Air was integrated into Ladeco Airlines, a main subsidiary for LAN. Ladeco was absorbed, and its routes are covered by LAN Express. Another subsidiary of LAN is ABSA Cargo Airline based in Brazil. To establish the needed commercial bilateral agreements for real growth, LAN became a member of the Oneworld Alliance in 2000. To provide customer continuity, LAN rebranded itself, and the company became LAN Airlines S.A., which allowed customers equal service provided by all LAN Airlines including its affiliates. Ten years later LAN acquired the Colombian airline AIRES.

LAN Airlines and its subsidiaries currently operate over 118 passenger airplanes. LAN CARGO and its subsidiaries have 13 freight planes. LAN is committed to the reduction of CO₂ emissions, and that commitment is reflected in its efficient young fleet of planes.

LAN CARGO S.A. provider of air-cargo transportation services worldwide was formerly known as LanChile Cargo S.A. changed its name in 2004. The company is based in Miami, Florida with cargo distribution centers worldwide. Lan CARGO S.A. operates as a

LAN CARGO's keys to success
is its business model,
which combines
cargo aircraft operations
with passenger aircraft
cargo compartments.

subsidiary of LAN Airlines S.A. LAN Cargo and its affiliates have one of the youngest fleets of cargo aircraft. In addition, the company has access to the cargo holds of passenger aircraft, which it utilizes as part of its delivery system. Its young cargo fleet includes Boeing 737, Boeing 767-300F and Boeing 777-200F aircraft. LAN CARGO's fleet is complemented by additional wet leased and chartered cargo aircraft, including Boeing 747-200F and Boeing 767-300F's. Its passenger fleet and its affiliates consists of the Dash 8-200, Boeing 737-700F, Airbus A321 / A320 / A319 / A318, Boeing 767-300ER and Airbus 340-300 offer to access to 135 passenger planes cargo holds.

LATAM Airlines Group S.A. and its subsidiaries, reported preliminary monthly traffic statistics for March 2013 compared to March 2012. Cargo traffic for LATAM Airlines Group increased 0.4% as capacity increased 3.5%. As a consequence, the cargo load factor decreased 1.8 points to 60.1%. The growth in cargo capacity is a result of an increased availability in the belly of passenger aircrafts. Despite a delay on certain seasonal demand, cargo traffic was driven by higher volumes in certain markets to and from South America.

LAN Airlines and its affiliates in Peru, Argentina, Colombia and Ecuador, and LAN CARGO and its affiliates, as well as TAM, S.A., and its subsidiaries TAM Linhas Aereas, S.A., including its business units TAM Transportes Aereos del Mercosur S.A., TAM Airlines (Paraguay) and Multiplus S.A. constitute one of the largest airline groups in the world in terms of network connections. This group provides passenger-transport services to about 150 destinations in 22 countries and cargo services to about 169 destinations in 27 countries

Products and Solutions

General Cargo is the term LAN CARGO uses for shipments of durable goods that do not require special treatment. Within this category are shoes, textiles, and spare parts, among others.

For loads that require special treatment, LAN CARGO offers solutions according to your needs.

The airline offers three products or categories because LAN CARGO understands that at time General Cargo must be transported with the ut-



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most urgency. As a result, customers can combine and choose from the priority products within individual guidelines.

Positive Flight Specific

Service Regulations for Positive FS is offered by LAN Cargo S.A. and its affiliates; ABSA Aerolinhas Brasileiras, S.A. "ABSA", Aerotransportes Mas de Carga, S.A. de C.V. "MAS AIR", Linea Aerea Carguera de Colombia, S.A. "LANCO". Always review the air waybill for specific information on responsibility and valuation of any shipment. When making the reservation, the client must specifically request Positive Flight Specific service and declare the type of product being transported. Otherwise, the shipment will be treated as a Standard Product. The shipper is responsible for making sure the correct service information is recorded on all the necessary documentation. If LAN CARGO or its affiliates fail to provide the guaranteed Positive Flight Specific service, the client shall be entitled to a full reimbursement of the shipment cost, and the cargo is transported on the next available flight. Please see and understand all the terms and conditions and always check with your LAN representative for details.

LAN CARGO also offers a Priority I service, which includes the highest priority and commitment to ensure boarding on the first freighter flight

available to the requested destination on direct cargo flights only. In the event of any inconsistencies or conflict between the Conditions of Contract expressed in the Air Waybill, the terms of the Conditions of Contract as expressed in the Air Waybill prevail. If LAN CARGO or its affiliates fail to provide the guaranteed Priority I service, the client shall be entitled to a 50% reimbursement of the shipment cost, and the cargo is transported on the next available flight. Only when all conditions are met, and it is up to the customer to fully understand all terms and conditions, that is why it is important to contact a LAN CARGO representative. Standard Product ensures regular and reliable service that allows access to all flights. Normally guarantees are not applicable.

LAN CARGO prides itself in finding the right solutions for each cargo's need. LAN CARGO is recognized as the largest air cargo carrier in Latin America – a leader as a result of its efficiency, coverage, quality of service, reliability, and experience.

Perishables

LAN CARGO gives special attention to the transportation of Perishable Cargo, given the conditions of the cargo's life cycle, which is essential to the preservation of these goods.

Perishable cargo includes: seeds, fruits, vegetables, fresh flowers, meats,

fish, shellfish, and any other product that can be quickly affected by inappropriate preservation conditions.

LAN CARGO and its affiliates' investments in state-of-the-art refrigerated warehouses in the region demonstrate their commitment to the Perishable Cargo industry. In addition, LAN CARGO and its affiliates have access to refrigerated warehouses at destinations where they operate, which allow the companies to provide customers their well known reliable service. For additional information, please contact your local LAN CARGO office.

Dangerous Goods

Dangerous Goods are articles or substances that may pose a risk to health, safety, personal property or the environment, when transported. LAN CARGO will ensure that the most rigorous security processes are followed while moving these products.

The LAN CARGO staff is certified for the reception and handling of all types of Dangerous Goods suitable for being transported. At all stations there is a place assigned for the storage of such products, in accordance with national and international regulations and requirements, which allow us to manage the shipments as safely as possible.

For transportation, these products must comply with classification, identification, packaging, labeling and documentation, as described in the IATA dangerous goods regulations and all regulations that apply.

At the time of reception, the staff of LAN CARGO will make a thorough review of documents and cargo, and provide comprehensive feedback in case there is any difference with the requirements of national and international regulations.

As an active IATA member, LAN CARGO provides training courses to staff. We have a group of trained instructors, in compliance with existing international regulations.

LAN CARGO knows that in some cases, your shipments of Dangerous Goods must be transported with the utmost urgency. That is why we offer you the opportunity to combine with the priority products available to every customer. For complete information, always contact your local LAN CARGO office.

Pharmaceuticals

With a clear understanding of the importance of the transportation of Pharmaceutical products, LAN CARGO designed a service that maximizes the time the shipment is maintained in the cold chain, allowing optimal conditions for these products.

In addition, LAN CARGO offers the option to transport Pharmaceutical products in containers with active temperature control.

LAN CARGO offers a specialized service for managing "passive"

shipments of Pharmaceutical products: "PHARMA 2 to 8°C" and "PHARMA 15 to 25°C". The general characteristics of the products are: Procedures in accordance with the guidelines of Chapter 17 of the IATA. The Declaration of temperature range on the Air Waybill. Recording of time and temperature at critical points of transportation. Trained staff in the handling of Pharmaceuticals. Procedures for continuous improvement to ensure the highest quality. Temperature control inside the aircraft. For more information on the features of this product, please contact your local LAN CARGO Office.

Live Animals

Different types of animals are transported on domestic and international routes daily, following high standards of care. Aircrafts are designed to provide a safe, pressurized and temperature controlled environment for animals. All animals are transported in compliance with International Air Transport Association (IATA) regulations for the humane treatment and transportation of animals, as well as those of other major international organizations. Depending on the live animal you transport, you must provide a suitable container with food and water accessible. LAN CARGO also provides clients the access to caregivers who can travel onboard with the live animals. We suggest contacting your LAN CARGO local Office to make these arrangements and for details on the applicable fees.

LAN CARGO's also offers a Charters and Special Projects division that offers the option of a flexible service designed to meet your needs, when you cannot meet the conditions of the regular Products and Solutions. If you need to reserve a complete or partial aircraft, ship cargo to places not routinely operated by LAN CARGO or its affiliated, or need a flexible schedule, LAN CARGO can offer you solutions. If you do not need an entire aircraft, a Partial Charter can be arranged in which you share an aircraft. For more information on the Charters and Special Projects services, please contact your nearest LAN CARGO office.

The Courier service offers agencies specializing in Parcel service, fast and expeditious transportation between LAN CARGO and its affiliates' extensive network.

The airlines Valuable Merchandise service consists of shipments of precious metals, currency, or jewelry, among others. LAN CARGO coordinates and implements the necessary security measurements for the transportation of these shipments.

To contact the Office closer to you, simply go to their excellent website please select the continent, country, city and begin shipping. .



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Michael Steen, Chairman, GACAG

Endorsing a WTO Agreement on Trade Facilitation, that aims to ease International Trade Transactions.

The international agreement on trade facilitation can spearhead a sustainable, long-term recovery in the economy, says the Global Air Cargo Advisory Group (GACAG). It says an agreement among World Trade Organization (WTO) members would represent a tangible outcome from the stalled Doha Round of trade negotiations.

In endorsing a WTO agreement on trade facilitation, GACAG said initiatives that aim to ease international-trade transactions by reducing border-related impediments to the flow of goods provide economic benefits to producers, consumers and others in the supply chain. As the swiftest mode of transportation, the air-cargo industry sees lower trade barriers and revised trade rules as being of "paramount importance" to stimulate import and export trade. The air-cargo industry transports around 34% of world trade by value, carrying goods worth \$5 trillion dollars annually.

Michael Steen, Chairman of GACAG, said: "Salvaging an agreement on trade facilitation from the Doha Round of negotiations would represent a major success for the WTO and its members and would have an enormously positive effect on the volume and flow of international trade and offer more opportunities for cost efficiencies. A near-term conclusion of a WTO trade facilitation agreement would promote simplification of customs procedures globally, and could be an important impetus to global trade and economic recovery. GACAG urges the WTO Contracting Parties to conclude their negotiations, and take any necessary steps to finalize and implement the agreement – even if that means severing the trade-facilitation agreement from the rest of the Doha Round."

The WTO negotiations offer a crucial opportunity to achieve important trade-facilitation commitments on a global scale, he added. GACAG believes that, at a minimum, a WTO trade-facilitation agreement should require customs authorities to provide online information about customs practices. It wants to see customs administrations provide binding advance rulings and independent, administrative reviews and appeals as part of more transparent procedures.


GACAG wants customs authorities to promote greater integrity. It says risk assessment should be the guiding principle in the evaluation of data and calls for a formal process to be established for consulting with the trading community on new rules and procedures. In its position paper of WTO Trade Facilitation, the Global Air Cargo Advisory Group also wants to see post-release reconciliation and post-entry audits

permitted, separate physical release of cargo from its fiscal release, and the provision of a "single-window" automation. GACAG says these should be proportionate to the specific offenses and the party's compliance record, and allow for the mitigation of penalties through a transparent, well documented process.

The WTO Doha Round

The Doha Round is the latest round of trade negotiations among the WTO membership. Its aim is to achieve major reform of the international trading system through the introduction of lower trade barriers and revised trade rules. The work program covers about 20 areas of trade. The Round is also known semi-officially as the Doha Development Agenda as a fundamental objective is to improve the trading prospects of developing countries.

http://www.wto.org/english/tratop_e/dda_e/dda_e.htm



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Positioning to Deliver More Value

IATA announced an organizational restructuring of its main divisions and regional operations to even better address the needs of its 240 member airlines. Senior management changes were also announced to support the new structure. All changes will take effect starting July 1, 2013. A key guiding principle of the restructuring is the concept of 'Global Development, Regional Delivery'. IATA is changing to deliver even greater value to its members. Strengthening regional structures close to IATA's members will help to understand and meet their needs better. IATA has also regrouped activities that have grown organically over time with the goal of being more intuitive to those they deal with. This will optimize IATA's ability to develop, modernize and deliver the global standards which are the foundation of aviation-enabled global connectivity.

7th World Air Cargo Symposium Focuses on Competitiveness

The seventh World Cargo Symposium (WCS) concluded in Doha on March 14, 2013 with a renewed commitment to improve air cargo competitiveness across the supply chain. This includes industry consensus on moving e-freight forward and on pursuing a risk-based approach to supply chain security. A major milestone was reached on e-freight with the approval by the Cargo Services Conference of the Multilateral e-Air Waybill (e-AWB). This removes the need for individual bilateral e-AWB agreements between airlines and freight forwarders and will be a major boost to e-AWB penetration. With regards to security, WCS saw progress in three key areas:

- The IATA Cargo Committee agreed to adopt the e-Consignment Security Declaration (e-CSD) wherever it has been adopted by regulatory authorities.
- Carriers participating in the ACAS pilots not yet transmitting data to the US Customs and Border Protection were urged to do so, and non-participating carriers were again

invited to register.

- The Netherlands and the UK endorsed the training course content for Independent Validators which will be taught at the new IATA Center of Excellence in Geneva.

Other outcomes at the Symposium included:

IATA Cargo Committee decisions to

- Work with other agencies to develop a harmonized industry benchmark for measuring carbon emissions from the air cargo supply chain
- Support progression toward cargo services liberalization, assuming states embrace a level playing field and the principle of fair competition

The Symposium supported

- Cargo agency modernization with the potential introduction in 2014 of an Air Cargo Partner Program that recognizes the changing trading environment between airlines and their customers. This will supplement the existing Cargo Agency Program
- The extension of the Future Air Cargo Executive Summit (FACES) to target graduate students as the initiative continues its mission to attract, develop and retain new executives in the air cargo field

Warren Jones Appointed Head of Cargo Network Service

IATA announced the appointment of Warren Jones as Head of Cargo Network Services (CNS), effective April 24, 2013.

Jones, a US national, was previously the Aviation Development Manager at Hartsfield-Jackson Atlanta International Airport, and has more than 15 years' experience in aviation and cargo issues. He holds degrees in aviation management and aeronautical science from Middle Tennessee State and Embry Riddle Aeronautical Universities. At CNS, Warren will be pursuing a wide-ranging program. Raising industry competitiveness, accelerating the transformation to e-commerce and the Cargo

2000 quality framework, and enhancing the security and safety of air cargo will all be major priorities. He will also be developing the value proposition of all CNS and IATA cargo products and services, including training.

Distortions Mask Modest Cargo Improvement

IATA released February data showing that air cargo maintained the modest improvement in demand that began in the fourth quarter of 2012.

Seasonally adjusted cargo volumes are 2.5% above the October 2012 low point. Comparisons with February 2012 performance however show a 6.2% decline. This is severely skewed as a result of two factors (1) February 2012 has an extra day owing to the Leap Year and (2) Chinese New Year (which is accompanied by many factory closings in Asia) occurred in January 2012 and in February 2013. After adjusting for these abnormalities, however, air cargo was actually up 2% in February compared to the previous year. February's air cargo performance has sustained the weak recovery that began in the fourth quarter of 2012. This is welcome news after two consecutive years of contraction. It is even better news that this growth is expected to pick up moderately as the year progresses.

North American freight demand declined 3.1% and capacity was down 4.2%. There was a strong month-on-month increase of 1.6%, which particularly reflects robust domestic demand.

International economic indicators are suggesting that the global economy bottomed out in the third quarter of 2012. Industrial production and business confidence measures have been improving since then. Demand for sea shipments already reflects the recovery in some parts of the world. But we are not yet seeing the positive impact of this in air cargo markets. While it remains to be seen if this is a long-term modal shift, it is clear that sea shipping is becoming a stronger competitor to air cargo."

Lithium

... a Battery of Questions

By Rick Eyerdam

NASA knows what to do. Let's ask them. The good news for airline operators and those who ship temperature-specific perishables, biomedicines, and living tissue is that a fix has been proposed for runaway fires within typical Lithium Ion batteries – a suggestion that came from NASA as early as 2009. That was the year the Air Line Pilots Association (ALPA) asked that the US government prohibit shipments of lithium batteries on all cargo and passenger flights until measures were taken to ensure that such shipments were safe.

"The evidence of a clear and present danger is mounting. We need an immediate ban on these dangerous goods to protect airline passengers, crews, and cargo," said Mark Rogers, Director of ALPA's Dangerous Goods Programs, in a press release.

He cited three lithium-battery fires in the previous two months. But lithium batteries were not the problem. They were Lithium Ion (Li-Ion) batteries, and there is a difference.

Sufficient Illumination

To this day, few have been sufficiently illuminated about magical lithium and its recent misfire in batteries.

- On August 14, 2009, the crew of a plane that landed in Minneapolis received a warning of smoke in the plane's forward cargo compartment. When fire crews opened the compartment, they found flames coming from a container filled with electronic cigarettes, each containing a Lithium-Ion battery.
- In July, a container filled with Lithium-Ion batteries on a flight to Santo Domingo, Dominican Republic, was found smoking and smoldering.
- In June, a burned package containing a Lithium-Ion bicycle motor was discovered when cargo handlers unloaded a plane in Honolulu.
- ALPA said all three incidents recall a 2006 incident where lithium batteries caused a fire on board a UPS plane that injured three crew members and damaged cargo. Those were lithium batteries.

Lithium is a soft, silver-white metal that belongs to the alkali metal group of chemical elements. It is light as a feather, the lightest and least-dense of all solid elements. Like all alkali metals, lithium is highly reactive, and it is also very flammable. For this reason, it is typically stored suspended in mineral oil.

The precursor company of 7Up added a form of lithium to its lemon/lime soda back in the days when Coca Cola contained cocaine. In medicinal form lithium has been proven to treat mania and bi-polar disorder. Anecdotal, small doses are considered a calming agent.

Hearts and hearing aids, Ipods and remote microphones share more

than 20 different forms of non-rechargeable lithium batteries – each with a different chemistry, cathode composition, electrolyte composition, and nominal voltage.

These range from the tiny expensive, long-life cells that power life-saving pacemakers to a special lithium battery with thionyl chloride chemistry and a lithium tetrachloroaluminate-in thionyl chloride electrolyte that is used only in extreme low-temperature situations. It should be removed and replaced only by a trained technician. It is considered a Class 9 Hazardous Material because it is prone to explode when shorted out. Clearly, not all lithium batteries are universally safe.

The Li-Ion is King

Lithium-Ion (Li-Ion) batteries were invented by scientists at Asahi Chemical, Japan, in 1985 as a rechargeable and more stable version of the lithium battery. Li-Ions were first sold commercially in 1991 by Sony and continue in wide use.

In 1997, the Li-Ion polymer battery was released. These batteries hold their electrolyte in a solid polymer composite instead of a liquid solvent, and the electrodes and separators are laminated to each other. According to the experts, the polymer electrolyte and laminated interior allows the battery to be encased in a flexible wrapping instead of a rigid metal casing, which means such batteries can be specifically shaped to fit a particular device. They also have a higher energy density than normal Li-Ion batteries. These advantages in flexibility have made the Li-Ion polymer the battery of choice for portable electronics.

NASA is allowing industry to deal with smaller Li-Ion battery development while it is studying the safety risks of the large Li-Ion batteries needed to replace heavier nickel cadmium batteries that power the international space station. These are the closest analogues to the large Li-Ion power packs deployed on the Boeing 787 and planned for the A350 XWB.

The Bad News

The bad news is that NASA is still not satisfied that Li-Ion batteries are safe enough to provide the main power for manned missions. Therefore, NASA recommends a course of further study while the Federal Aviation Administration (FAA) is content to put these larger transitional main batteries in a stainless steel box and hope that contains the fire.

NASA has stated that the near future of battery power in space remains Li-Ion. Hundreds have flown on non-manned missions, four made by ABSL Space Systems have flown as power supplies on space suits, and

several have flown as the power source for computers in the International Space Station – all without incident. But the main power units are the concern.

The good news for airline operators and those who ship temperature-specific perishables, is that a fix has been proposed for runaway fires within typical Lithium Ion batteries.

In March of 2009, NASA published the study “A Review of State-of-the-Art Separator Materials for Advanced Lithium-Based Batteries for Future Aerospace Missions.” The study, headed by Richard S. Baldwin of the Glenn Research Center, Cleveland, Ohio, explained, “As NASA embarks on a renewed human presence in space as part of the ‘U.S. Space Exploration Policy,’ we will require safe, human-rated, electrical energy storage and power generation technologies that will be able to demonstrate reliable performance in a variety of unique mission environments. NASA Constellation Program elements include the Crew Exploration Vehicle (Orion), crew and cargo launch vehicles (Ares I and Ares V, respectively), the Lunar Surface Access Module (Altair), extravehicular activity (EVA) surface suits and extraterrestrial rovers and habitats.”

This study further maintained, “To address the future performance and safety requirements for the energy storage technologies that will enhance and enable these and other future aerospace missions, advanced rechargeable, Li-Ion battery technology development is being pursued with an emphasis on addressing performance technology gaps between state-of-the-art capabilities and critical future mission requirements.”

Most important, NASA said in 2009, “Li-Ion batteries have not been fully space-qualified for use as a main energy storage element for manned, human-rated aerospace missions. Currently, both cell and cell component development efforts are focused on improving the overall safety, as well as the electrochemical attributes, of such battery systems in order to optimize such for manned space applications. A key cell component of a Li-Ion battery which significantly impacts both of these performance features is the battery separator.”

At the time, NASA was aware of the issues that seem to have only recently been discovered. Earlier studies had shown that the “function and reliability of the separator is critical for the optimal performance and safety of a Li-Ion cell. In nonaqueous, liquid-electrolyte cells that

exemplify a Li-Ion cell chemistry, the separator is typically a nonelectrically-conducting porous electrolyte-filled media or membrane, which is sandwiched between and in contact with the two active, solid electrodes.”

NASA also explained, “The separators’ roles are to prevent direct electronic contact between the two electrodes that would result in a short-circuit, to allow the flow of ionic species within the cell and certain separator materials can function as an internal cell safety device.” Further underlining the importance of the separator, NASA said, “Although classified as an inactive cell component, the separator properties play a critical role in obtaining practical and optimal cell-level performance and the inherent safety of the cell. In addition to initially possessing optimal properties for meeting the requirements for a specific application, the material properties must be uniform and stable over the desired application/mission life.”

Li-Ion Can Be “Self-Heating”

The predicted results seem to explain the actual occurrences. NASA stated, “If a Li-Ion cell is accidentally overcharged or abused, heat can be generated that could seriously compromise cell and battery-level safety, which is especially critical for manned, human-rated applications. Above a threshold temperature, a ‘self-heating’ condition could occur due to exothermic reactions occurring internally within the cell. Such reactions may include reactions between lithium and electrolyte and the thermal decomposition of internal cell components. If the internal heat generation is allowed to continue, a catastrophic cell ‘thermal runaway’ condition could occur, which would be a serious safety concern for a manned application.”

The study also suggested that with proper design, the thermal meltdown can be prevented by the development of separator material more robust even than polymeric separators. “The separator material should also possess high-temperature melt integrity and exhibit mechanical robustness above the shutdown temperature. After a separator shutdown occurrence, the cell temperature is likely to continue to increase. The separator must maintain mechanical integrity and a high impedance as a function of time at elevated temperatures in order to prevent the electrodes from making physical contact and creating the safety hazard of an internal short circuit.” This study also suggested that “Thermal mechanical analysis (TMA) can provide a measure of a material’s melt integrity.”

Only Time Will Tell if People Read the Memo

All batteries are essentially volatile, or they won’t generate and store electricity. Take the battery that starts your vehicle.

The lead-acid battery was invented by 1859 by Gaston Planté and is

the first-ever battery that could be recharged by passing a reverse current through it. A lead-acid cell consists of a lead anode and a lead dioxide cathode immersed in sulfuric acid. Both electrodes are slowly, chemically destroyed by the acid to produce lead sulfate. The reaction of the acid and the lead anode releases electrons, which are then consumed by the lead dioxide producing heat energy in the form of a direct electrical current.

These chemical reactions can be reversed by passing a reverse current through the battery, thereby recharging it. Over time the sulfuric acid and lead elements deteriorate until the battery loses its ability to recharge or generate its rated voltage.

The Li-Ion battery (sometimes Li-ion battery or LIB) is a member of a family of rechargeable battery types in which lithium ions move from the negative electrode to the positive electrode during discharge and back when charging. The best Li-Ion batteries use an intercalated lithium compound as the electrode material.

Intercalation materials are composed of a solid network of lithium atoms together with other metals such as cobalt, nickel, or manganese meshed together with oxygen atoms. When you charge a lithium battery, the charging current pulls the positive lithium ions out of this network. Then, when you use the battery, it discharges as these lithium ions migrate back into the electrode, pulling electrons as they go and so generating a current.

The industry-wide standards for Li-Ion batteries were approved in March 2008 by nearly two dozen members of a committee set up by RTCA Inc., a nonprofit organization that serves as the FAA's main adviser on certain technical issues. The tougher standards included testing to ensure that even if various backup circuits protecting the battery systems all failed, the batteries wouldn't explode, burn, or rupture.

The WSJ reported recently, "The standards adopted by the FAA for Boeing's 787, by contrast, determined that the likelihood of such multiple failures on Dreamliners was 'extremely remote' and therefore no such testing was necessary, according to FAA documents and people familiar with the details." Fortunately, those standards are on record and were published in October 2007 in the Federal Register.

Optimism for 2017 Deployment

Loretta Gunter, the Boeing spokeswoman, said Boeing was optimistic because it "validated through extensive analysis and testing" that the likelihood of multiple failures of backup systems were extremely remote. The NASA study was also optimistic, but stopped short of endorsing Li-Ion batteries for human transportation.

It concluded: "As emphasized in this review, the separator component of advanced Li-Ion and lithium-based cells for high specific energy and/or

high power density applications will play an important role in realizing optimal levels of performance and safety. It will be important to optimize all cell and battery/system-level components to enhance performance and reliability while maintaining and enhancing the safety of the technology. As lithium-based cell technology continues to become more advanced and mature, the requirements for and function of the separator will become more demanding and complex. Eventually, the goal of realizing an infinitely thin separator with negligible resistance will be met by a future generation of lithium-based cell technology that will practically employ polymeric or solid-state electrolytes."

Instead of improved separators, however, the next step in rechargeable-battery technology took place in Iran. The potassium-ion battery was first invented by Iranian chemist Ali Eftekhari in 2004 as an alternative to Li-Ion batteries.

Prussian Blue Solution

The potassium-ion battery uses the substance Prussian blue as the cathode material because of its stability. This Prussian blue is very similar to a dye developed in the eighth Century. Prussian Blue is ferric ferrocyanide ($\text{Fe}^{\text{III}}_4 [\text{Fe}^{\text{II}}(\text{CN})_6]_3$) with an iron(III) atom coordinated to nitrogen, and an iron(II) atom coordinated to carbon. It is inexpensive to synthesize.

The Iranian prototype was made of KBF₄ electrolyte though almost all common electrolyte salts of lithium batteries (potassium salts) can be used for the construction of the potassium battery. According to the experts, the cell design is simple, and both the material used and the procedure needed for the cell fabrication are less expensive than for Li-Ion batteries.

A Battery of Other Options

There are other alternative combinations of low-weight, high-yield lithium-based batteries in the works. And NASA says its component efforts are focused on silicon-composite anodes, advanced lithiated mixed-metal-oxide formulations of Ni-Mn-Co (NMC) cathodes, and electrolytes that interact. NASA is working to select the design that safely meets mission needs, and other innovative materials will be investigated to increase the likelihood of success.

The components are being developed by several competitively selected laboratories across the country, with some key component work being conducted in-house. Five battery modules representing candidate vendors and cell designs are currently on life test at the Glenn Research Center. Vendors with cells under evaluation include ABSL, GS Yuasa, Quallion, and Saft America. In addition to the in-house tests, a more extensive test covering down-selected vendors GS Yuasa (maker of the

evolving 787 battery) and Quallion is underway at the Navy Battery Test Facility in Crane, Indiana.

K2 Energy also offers an alternative to Li-Ion batteries that it claims offers a level of safety that is significantly better than other lithium-ion battery chemistries. "It's no secret that any energy storage system, whether it's gasoline, jet fuel, or even lead-acid batteries, by nature is hazardous when exposed to certain conditions like a spark, flame, or overcharge. For most companies, the logical solution is to simply protect the fuel from exposure," says Johnnie Stoker, Ph.D., CEO of K2 Energy Solutions. "We've taken things a step further by actually changing the nature of the material itself. In the case of our batteries, by physically changing the cathode material, we have created an environment where both the likelihood of a hazard and the severity of an event if one occurs are reduced."

It is now known for certain that genuine scientific study has revealed risks inherent in weak separators while seeking the safest Li-Ion configuration for manned flight. Can there be any reason other than financial urgency for selecting an evolving Li-Ion battery to power the main functions on the next generation of passenger and cargo airliners?

Boeing says, without giving specifics, that its most recent battery-system improvements make the 787 safe. These improvements include a redesign of the internal battery components to minimize initiation of a short circuit within the battery, better insulation of the cells, and the addition of a new containment and venting system. With the exception of the containment and venting system, Boeing could be following the NASA template. If so, Boeing has surpassed NASA's level of confidence.

Continuing its Li-Ion Validation for the International Space Station, NASA explains, "As the life of the International Space Station has been extended beyond 2015, there is a need to replace the Nickel-Hydrogen (Ni-H₂) batteries that currently provide power during the eclipse portions of the low-Earth-orbit cycles. Li-Ion batteries offer significant advantages over Ni-H₂ and are in the process of being developed for that application, with the first launch anticipated for 2017."

An effort to track that progress was frustrated by this message: "The NASA technical reports server will be unavailable for public access while the agency conducts a review of the site's content to ensure that it does not contain technical information that is subject to U.S. export control laws and regulations and that the appropriate reviews were performed. The site will return to service when the review is complete. We apologize for any inconvenience this may cause."

The Simplest Fix

Meanwhile, the most obvious recent solution to the highly charged Li-Ion aircraft-safety debates was offered when Airbus announced that it is going back to using nickel-cadmium batteries for its A350 XWB

aircraft program instead of Li-Ion main batteries.

Waldemar Jungner invented the nickel-cadmium battery in 1899. It is a rechargeable battery that has nickel and cadmium electrodes in a potassium hydroxide solution – the first battery to use an alkaline electrolyte. It was commercialized in Sweden in 1910 and reached the United States in 1946. So it has seen some rugged testing in real-life applications for some time.

ICAO Bans Lithium-Ion Aircraft Batteries as Cargo

The International Civil Aviation Organization (ICAO) temporarily banned the carriage of lithium-ion aircraft batteries as cargo on passenger aircraft as of February 15, 2013. The new amendment will rescind ICAO's recent inclusion of lithium-ion aircraft batteries up to 35kg in Special Provision A51 to the UN aviation body's Technical Instructions for the Safe Transport of Dangerous Goods by Air. Special Provision A51 is designed to provide airlines with the operational flexibility to transport aircraft batteries as cargo on passenger aircraft in special circumstances. The inclusion of lithium-ion aircraft batteries in A51 had only become effective on January 1.

"This amendment to Special Provision A51 is a temporary measure, taken to ensure that safety considerations remain paramount while the related investigations in the United States and Japan remain ongoing," stressed ICAO Council President, Roberto Kobeh González. "Safety is the number-one priority of the aviation community, and we are very confident that this situation will eventually be resolved in a manner that further supports air transport's admirable safety performance while addressing the concerns of all stakeholders impacted by these events."

The ICAO decision comes on the heels of the grounding of Boeing's 787 Dreamliner fleet by the US and Japan more than three weeks ago – after a battery caught fire in a plane parked in Boston and a 787 with a smoking battery was forced to make an emergency landing at Takamatsu airport in western Japan.

ICAO stressed that the new amendment does not affect the carriage of other aircraft-battery types on passenger planes under A51, nor will it place additional restrictions on lithium-ion aircraft batteries being carried as cargo on cargo aircraft. Similarly, it will have no impact on the extensive requirements in the ICAO Technical Instructions governing the carriage of other types of lithium-ion batteries.



FAA Approves the Improvements to the 787 Battery Systems

Boeing News

The U.S. Federal Aviation Administration approves the improvements to the 787 battery systems.

Visionary design, exceptional innovation, unrivaled passenger comfort – the 787 Dreamliner was created to provide a revolutionary flying experience. On April 19th, 2013, the Federal Aviation Administration approved the improvements to the 787 battery systems. With this approval, the Dreamliner will be back in service and soaring once again.

Safety is the foundation for everything we do.

The 787 was built on the foundation of safety – to date, more than one million passengers have already traveled on the Dreamliner and more than 18,000 flights have safely taken place. Our robust, innovative 787 technology makes it possible to navigate, monitor the weather, check the conditions at airports and track the health of the airplane.

We continuously improve our airplanes.

When we learn something new – whether from testing or in-service lessons – we incorporate what we learn to make our airplanes better. These lessons ultimately help us make airplanes even safer and more reliable. The U.S. Federal Aviation Administration (FAA) cleared the way for Boeing and its customers to install the approved modifications and will lead to a return to service and resumption of new production deliveries. “FAA approval clears the way for us and the airlines to begin the process of returning the 787 to flight with continued confidence in the safety and reliability of this game-changing new airplane,” said Boeing Chairman, President and CEO Jim McNerney. “The promise of the 787 and the benefits it provides to airlines and their passengers remain fully intact as we take this important step forward with our customers and program partners.”

The FAA's action will permit the return to service of 787s in the United States upon installation of the improvements. For 787s based and modified outside the United States, local regulatory authorities provide the final approval on return to service.

Approval of the improved 787 battery system was granted by the FAA after the agency conducted an extensive review of certification tests. The tests were designed to validate that individual components of the battery, as well as its integration with the charging system and a new enclosure, all performed as expected during normal operation and under failure conditions. Testing was conducted under the supervision of the FAA over a month-long period beginning in early March.

“The FAA set a high bar for our team and our solution,” said McNerney. “We appreciate the diligence, expertise and professionalism of the FAA's technical team and the leadership of FAA Administrator Michael Huerta and Secretary of Transportation Ray LaHood throughout this process. Our shared commitment with global regulators and our customers to safe, efficient and reliable airplanes has helped make air travel the safest form of transportation in the world today.”

Boeing, in collaboration with its supplier partners and in support of the investigations of the National Transportation Safety Board and the Japan Transport Safety Board, conducted extensive engineering analysis and testing to develop a thorough understanding of the factors that could have caused the 787's batteries to fail and overheat in two incidents last January. The team spent more than 100,000 hours developing test plans, building test rigs, conducting tests and analyzing the results to ensure the proposed solutions met all requirements.

“Our team has worked tirelessly to develop a comprehensive solution that fully satisfies the FAA and its global counterparts, our customers and our own high standards for safety and reliability,” said Boeing Commercial Airplanes President and CEO Ray Conner. “Through the skill and dedication of the Boeing team and our partners, we achieved that objective and made a great airplane even better.”

Boeing also engaged a team of more than a dozen battery experts from across multiple industries, government, academia and consumer safety to review and validate the company's assumptions, findings, proposed solution and test plan.

The improved battery system includes design changes to both prevent and isolate a fault should it occur. In addition, improved production, operating and testing processes have been implemented. The new steel enclosure system is designed to keep any level of battery overheating from affecting the airplane or even being noticed by passengers.

“This is a comprehensive and permanent solution with multiple layers of protection,” said Conner. “The ultimate layer of protection is the new enclosure, which will ensure that even if a battery fails, there is no impact to the airplane and no possibility of fire. We have the right solution in hand, and we are ready to go. We are all very grateful to our customers for their patience during the past several months,” said Conner. “We know it hasn't been easy on them to have their 787s out of service and their deliveries delayed. We look forward to helping them get back into service as quickly as possible.”

Boeing has deployed teams to locations around the world to begin installing improved battery systems on 787s. Kits with the parts needed for the new battery systems are staged for shipment and new batteries

also will be shipped immediately. Teams have been assigned to customer locations to install the new systems. Airplanes will be modified in approximately the order they were delivered.

"The Boeing team is ready to help get our customers' 787s back in the air where they belong," said Conner.

Boeing will also begin installing the changes on new airplanes at the company's two 787 final-assembly plants, with deliveries expected to resume in the weeks ahead. Despite the disruption in deliveries that began in January, Boeing expects to complete all planned 2013 deliveries by the end of the year and expects that the 787 battery issue will have no significant impact to its 2013 financial guidance.

More information is available at <http://787updates.newairplane.com>.

Forward-Looking Statements

Certain statements in this release may be "forward-looking" within the meaning of the Private Securities Litigation Reform Act of 1995. Words such as "expects, forecasts, plans, projects, believes, estimates, targets, anticipates," and similar expressions are used to identify these forward-

looking statements. Forward-looking statements are based on our current expectations and assumptions, which may not prove to be accurate. These statements are not guarantees and are subject to risks, uncertainties, and changes in circumstances that are difficult to predict. Actual outcomes and results may differ materially from what is expressed or forecasted in these forward-looking statements. As a result, these statements speak to events only as of the date they are made and we undertake no obligation to update or revise any forward-looking statement, except as required by federal securities laws. Specific factors that could cause actual results to differ materially from forward-looking statements include, but are not limited to, the effect of economic conditions in the United States and globally, and general industry conditions as they may impact us or our customers, as well as the other important factors disclosed previously and from time to time in our filings with the Securities and Exchange Commission.



CLICK HERE: To learn more about Boeing Updates.
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I am Speed of Light

Corinne Wehrle
Sales Delegate Cargo District Berne, Lugano, Zurich

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Air Safety Standards

Reversing an age-old “fly and fix” mentality

William A. Enk, Sr.

PERFORMANCE CRITERIA

Performance criteria for fire suppression during certification flight testing is an important part of the evaluation process, particularly how the design satisfies FAA Code of Federal Regulations, Title 14, Part 25:

“The capacity of each required built-in fire extinguishing system must be adequate for any fire likely to occur in the compartment where used, considering the volume of the compartment and the ventilation rate.” [FAA 25.851 (b)(2)]

“Flight tests must be conducted to show compliance with the provisions of §25.857 concerning...the dissipation of the extinguishing agent in Class C compartments.” [FAR 25.855(h)]

“A Class C cargo or baggage compartment is one...in which...(2) there is an approved built-in fire extinguishing or suppression system controllable from the cockpit and (4) there are means to control ventilation and drafts within the compartment so that the extinguishing agent used can control any fire that may start within the compartment.” [FAR 25.857(c)(2) and (4)]

“Each item of installed equipment must – (1) be of a kind and design appropriate to its intended function; ... (4) function properly when installed...” [FAR 25.1301(a)(1) and (4)]

“The equipment, systems, and installations... must be designed to ensure that they perform their intended functions under any foreseeable operating condition.” [FAR 25.1309(a)]

Most cargo compartments on freighter aircraft comply with Class E cargo-compartment regulations and, therefore, have no cargo-fire suppression system installed. This article will be especially important should these operators ever upgrade to Class C standards – either as a result of future regulation or as a means to protect valuable assets such as aircraft, flight crew, and customers’ cargo.

Some holders of approved type designs already offer kits to upgrade Class E compartments to Class C standards. The information in this article gives current guidance on cargo fire-suppression methods and design requirements. These principles should be understood when considering any modifications or additions of cargo fire-protection systems.

The passenger-operator group includes planes configured for all-passenger and combi-passenger and freight on the main deck. These planes have Class C lower-lobe cargo compartments, and some regional planes have Class C compartments at the back of the main deck. The freighter-operator group, on the other hand, includes planes configured for all-freight in the lower lobe and in the larger main-deck cargo compartments. Most of these planes have Class E cargo compartments with detection-only capability. But these planes can depressurize in the event of a fire when it is not possible to land immediately.

While today’s air carriers struggle to find a return on investment for their operations, they also strive to work with the FAA and other Civil Aviation Authorities (CAA’s) for improved air safety. Although achieving both objectives in the current volatile global economy is a massive challenge, significant thought leadership is reversing an age-old “fly and fix” mentality regarding air-safety standards to a proactive, cost-effective “find-and-prevent” strategy upon which to build a bright future. Final rules, regulations, and guidance are still being sorted out, but the stage is now set for cargo air carriers to make a paradigm shift in how they address safety.

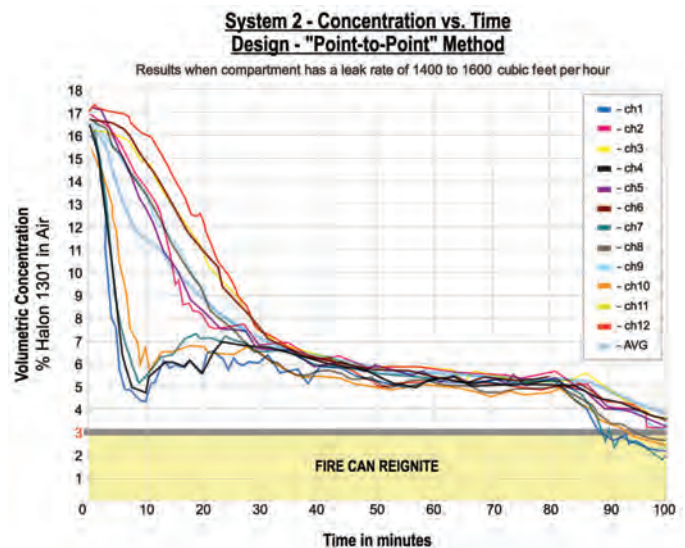
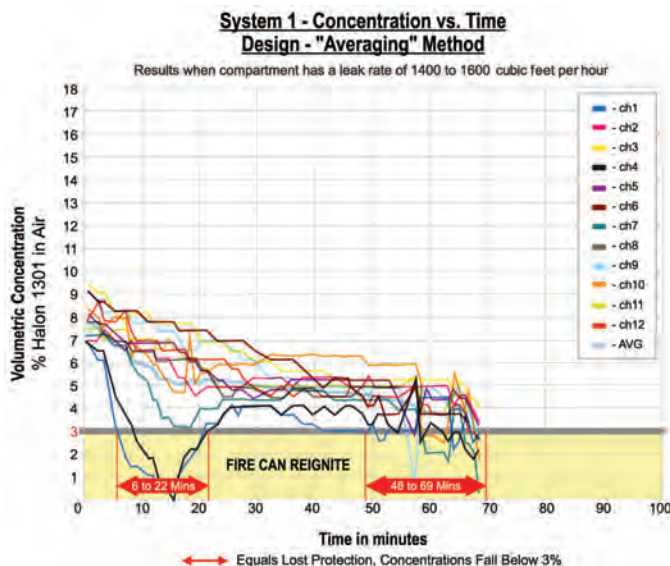
A new approach – Safety Management Systems – utilizes “risk management” to identify safety hazards and provide for their mitigation before an accident occurs, instead of after. The FAA and CAAs have taken a fresh perspective on mitigating significant air-safety events since the tragic loss of ValuJet Flight 592 in the Florida everglades in May 1996.

Fire hazards in particular were given another look, which resulted in the FAA changing the operating requirements of Transport Category Aircraft. In this case, Class D cargo compartments were no longer allowed and had to be modified to Class C cargo compartments by the installation of a cargo fire-protection system that includes a “separate approved smoke detector or fire-detector system to give warning at

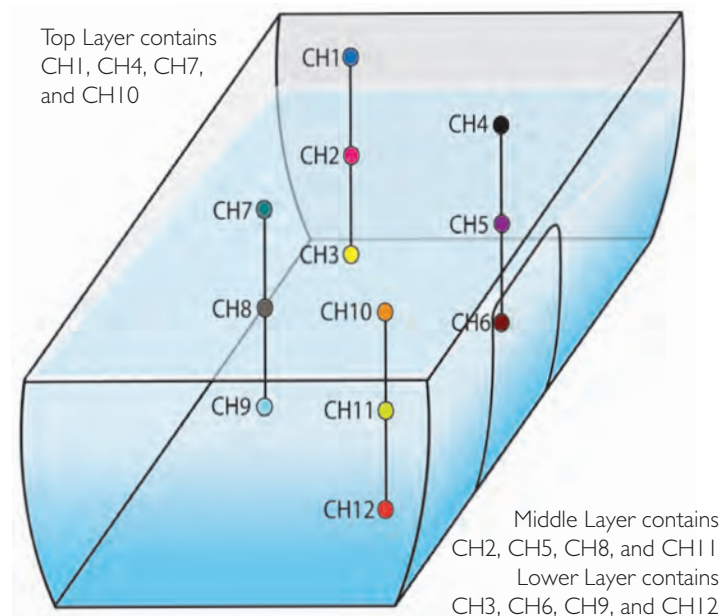
the pilot or flight engineer stations,” according to the U. S. Code of Federal Regulations. It also calls for “an approved built-in fire extinguishing or suppression system controllable from the cockpit.”

The FAA gave special attention to the U. S. Code of Federal Regulations, Title 14, Part 25 – sections FAR 25.851(b)(2), FAR 25.1301, and 25.1309(a), which require the design of the cargo fire-protection system in the Class C cargo compartment to be one in which:

- “The capacity of each required built-in fire extinguishing system must be adequate for any fire likely to occur in the compartment where used, considering the volume of the compartment and the ventilation rate.”



This illustration shows a cargo compartment in a nose up attitude typical of cruise.



- “The design is appropriate for its intended function, is labeled to show its limitations, and functions properly when installed.”
- “The design will perform its intended function under any foreseeable operating conditions.”

Cargo fire-protection systems that meet these requirements have been installed in commercial aircraft since 1997, and most are still flying today. Complete systems are available from the manufacturers of Transport Category Aircraft and from holders of Supplemental Type Certificates (STC's). These cargo fire-protection-system designs meet the requirements of the FARs and provide an accepted measure of safety.

But is it possible that these fire-protection systems could be safer?

Are the designs really adequate? Do they mitigate the risk of fire to an acceptable level of risk? Or does a safety hazard still exist?

FAA Guidance states that “traditionally cargo fire-extinguishing systems have been certified by demonstrating five percent initial Halon concentration levels and subsequent concentration levels of three percent.” And many aircraft manufacturers used the technique of “volumetric averaging” to establish the minimum Halon 1301 (Halon - industry-standard fire suppressant) concentrations required. The FAA recognized early on, through fire-suppression tests, that “the current Halon measuring technique using volumetric averaging may allow a concentration of Halon insufficient to suppress a fire.” However, after receiving objections from manufacturers, the FAA decided that not allowing volumetric averaging would be considered new policy for Class D-to-C conversions. Therefore, the manufacturers were allowed to continue to use the certification techniques they had been using, including volumetric averaging, to establish the minimum concentration of Halon for fire suppression (Ref. AC 25-22).

Additional guidance in Europe by the Joint Aviation Authority (JAA), and later adopted by EASA, carry stricter suppression requirements whereby the concentration of suppressant must be enough so that all points in the cargo compartment remain at or above 3% by volume (i.e., point to point). This allows all portions of the compartment to be protected for the required duration of protection and reduces the risk of a possible reignited fire hazard. Ongoing attempts to harmonize the U. S. FAR Part 25 and EASA CS-25 certification standards continue.

But safety efforts require more than regulations – they also require operators to be proactive by identifying fire hazards on their aircraft

and mitigating them before a catastrophic loss occurs. This type of forward thinking is a “win-win” for all concerned.

Performance Comparison

A performance comparison of two typical cargo fire-protection systems during certification flight testing shows how appropriate testing can identify an existing hazard (System 1) and how adequate design (System 2) mitigates this hazard.

Testing is accomplished (in-flight) using gas-analyzer probes positioned at 12 different locations in the compartment. Each probe (referred to as a “channel”) measures the concentration of the extinguishing agent in the air versus the time at that location.

The illustration on the preceding page 57, shows a cargo compartment in a nose-up attitude typical of cruise. There are three layered planes through the compartment representative of the upper, middle, and lower elevations (water lines) inside. The top layer, containing CH1, CH4, CH7, and CH10 is where the decay is greatest at first, particularly at the front of the compartment at CH1 and CH4 where the flight attitude causes the front to be higher than the rear.

The gas concentration from each channel is plotted versus time to show the measured concentration of agent at each channel over time (i.e., 60 minutes, 120 minutes, and so on). For each chart below, the concentration of extinguishing agent (Halon 1301) in air must be at least 5% to knock down a fire and then must be maintained at 3% or higher to keep it suppressed.

System 1 Results

System 1's chart shows a design that's approved by the FAA with a duration of protection based on the average concentration of suppressant versus time. A fire can reignite at locations where concentrations are below 3%, shown by the yellow shaded area on the chart. The metered (sustaining) discharge is activated 15 minutes after the knockdown discharge.

System 2 Results

System 2's chart shows the duration of protection is based on the suppressant concentration everywhere in the compartment (point to point) versus time. This is a higher-performance design that is approved by the FAA as well as by the EASA. System 2's design discharges the sustaining concentration before the amount of agent from the knockdown discharge falls below 3%, uses more sustaining

agent, and discharges it at a higher flow rate into the compartment so that the concentration never falls below 3% at any point.

In both systems, the initial high flow rate of suppressant provides a “knock-down” and then a second metered (sustaining) flow that replaces the agent lost due to compartment leakage. A pressurized compartment leaks most around its exterior doors. Both designs allow for a leak rate typical of compartments with normal wear and tear and thus compensate for leakage much greater than would be typical of a new aircraft.

System-Scenario Performance Questions

A comparison analysis of the performance data in the System 1 and 2 Charts generates the following questions.

If the sustaining flow of the suppression system shown in System 1 is delayed longer than 15 minutes, would more of the compartment become unprotected?

Yes, because the concentration in the other portions of the compartment would also continue to decay, and if the delay is long enough, these areas could also fall below 3%. Then, when the metered flow begins, the rate of flow and amount of agent may not be sufficient to reach 5% for knockdown and then 3% to keep the fire suppressed. Failure to extinguish has been identified as a hazard that exists with some fire-protection systems, but one that can be mitigated.

For System 1, what’s causing the precipitous decay in concentration?

The FAA states that “tests have shown that Halon, having a higher density than air, settled in the cargo compartment.” Further, the tests showed that fires may reignite at the higher water lines in the cargo compartment due to insufficient Halon concentration even though the average volumetric concentration of Halon was considered adequate. There was no subsequent measured increase in Halon concentration near the fire due to convective stirring” (Ref. FAA Advisory Circular, AC25-22, “Certification of Transport Airplane Mechanical Systems”).

The EASA concurred with the findings of the FAA, and further stated: “Since Halon 1301 is approximately five times heavier than air, it tends to stratify and settle after it is released into the cargo compartment. Also, due to temperature differences and ventilation patterns, in a ventilated compartment, Halon 1301 will start to stratify shortly after discharge, and the concentration level will decay faster in the upper locations of the compartment than in the lower locations. Halon 1301 will also have a tendency to move aft due to any upward pitch or

forward in any downward pitch of the aeroplane in flight.” (Ref. EASA Certification Specification, CS-25, “Large Aeroplanes” and Book 2 “Acceptable Means of Compliance”, Amendment 12 – AMC Subpart B, 25.851(b) Built-in Fire Extinguishers for Cargo Compartments).

For System 1, can a fire reignite in the upper areas of the cargo compartment during the 16 minutes at the beginning or during the 21 minutes at the end?

FAA tests showed that “Fires may reignite at the higher water lines in the cargo compartment due to insufficient Halon concentration even though the average volumetric concentration of Halon was considered adequate.” (Ref. FAA Advisory Circular, AC25-22, “Certification of Transport Airplane Mechanical Systems”).

EASA states: “Testing at the FAA Technical Center and other data from standardised fire-extinguishing evaluation tests indicates that the use of averaging techniques may not substantiate that there are adequate concentration levels of fire-extinguishing agent throughout the compartment to effectively suppress a cargo fire. If a cargo fire occurred, and was subsequently suppressed by Halon 1301, the core of the fire could remain hot for a period of time. If the local concentration of Halon 1301 in the vicinity of the fire core dropped below three percent by volume and sufficient oxygen is available, re-ignition could occur.” (Ref. EASA Certification Specification, CS-25, “Large Aeroplanes” and Book 2 “Acceptable Means of Compliance, Amendment 12 – AMC Subpart B, 25.851(b) Built-in Fire Extinguishers for Cargo Compartments”).

Should a fire reignite after the cargo-fire protection has released the knockdown agent – whether before or during the release of the sustaining agent – there is no more extinguishing agent for a second knockdown discharge (minimum 5% concentration), and the sustaining discharge (at least 3% after knockdown) is only to replace leaked agent, not to provide a second knockdown. The ability to suppress the fire is compromised, and thus the fire is likely uncontrollable.

If a fire reignites, will the crew get a second warning?

Airplane Flight Manual Supplement procedures indicate the initial event will be detected within the first minute, and the crew will be alerted. The crew then activates the fire-protection system and diverts to the nearest suitable airport to land and evacuate all passengers and crew.

In System 1, re-ignition of a fire during the diversion is possible. Typically, a cargo compartment is well sealed, and during a fire, the

heating/ventilation is shut off in the affected compartment. So smoke from the initial fire will remain in the compartment for a very long time.

The crew probably will not receive another warning for the fire that reignites because smoke from the initial fire has not cleared. Thus, the crew should never expect the initial warning to expire. Time is of the essence, and it's important to prevent reignition of a fire by maintaining sufficient agent concentration everywhere until the plane is evacuated. This is a foreseeable operating condition addressed by System 2's adequate design.

The sustaining flow began much sooner for System 2 compared to System 1. In System 2's design, the concentration remains above 3% for the entire duration of time until the sustaining agent is gone.

Does the design of System 2 mitigate the hazards and risks associated with the older design of System 1?

Yes! System 2's design discharges the sustaining concentration before the amount of agent from the knockdown discharge falls below 3%, uses more sustaining agent, and discharges it at a higher flow rate into the compartment so that the concentration never falls below 3% at any point.

What if the compartment is full of cargo and the FPS design provides only a knockdown but no sustaining discharge? How will the duration of protection be affected when the compartment is 75% full?

System 2's chart results are from a test in an empty compartment of a fire-protection system with both a knockdown and a sustaining discharge. However, EASA recognized "a compartment with cargo may be more time critical than an empty compartment for minimum fire-extinguishing agent concentration levels."

EASA states: "If the volume of the compartment is decreased to represent increasing cargo load percentages and the leakage rate and initial Halon quantity are kept constant, then the initial (i.e., knockdown) Halon concentrations increase and the concentration decay rate also increases. Using this approach, the concentration in an empty compartment will decay to 3% faster than a loaded compartment up to a load percentage of about 65.6%. With compartments loaded to a higher percentage than 65.6%, the concentration will fall below 3% faster than an empty compartment." (Ref. EASA Certification Specification, CS-25, "Large Aeroplanes" and Book 2 "Acceptable Means of Compliance," Amendment 12 – AMC

Subpart B, 25.851(b) "Built-in Fire Extinguishers for Cargo Compartments," Pages 2-D-77, Figure 8-1 "Effect of Cargo Load on Halon 1301 Concentration Levels").

So, a compartment with a load percentage of 75% (the most likely operating condition and higher than 65.6%) will fall below 3% faster than an empty compartment. Thus, the duration is shorter in a full compartment. With an adequate design, the concentration will remain in a tight grouping as shown in System 2's chart. Only a design with initial knockdown plus metered sustaining discharges can overcome the effects of stratification and variable cargo loading. It's very important to also recognize, because it has a metered sustaining flow, the protection provided by System 2's fire-protection system is not affected when the volume of cargo in the compartment changes, obviously another foreseeable condition.

Fleet Evaluation and Testing

Cargo compartment-fire protection-system performance on line aircraft can be verified by testing with a gas analyzer to see the effects of normal wear and tear. Maintenance and engineering personnel can test a sample of the compartments in each fleet to determine performance and accomplish mitigation of any fire hazards discovered.

Or, as mentioned above, operators can ask the holders of the Type Design for their Class C cargo FPSs whether their design utilizes the volumetric averaging or point-to-point methods for the duration of protection. It is important for operators to ask for the leak rate determined during certification flight testing and for the charts showing the concentration versus time in the compartments as measured at each point during flight testing to show compliance.

The design's leak rate should be representative of the cargo compartments found on in-service aircraft with normal wear and tear. And the duration of protection from the occurrence of a fire and activation of the fire-suppression system should be the only the time, as shown by approved tests and analysis used for showing compliance, when the concentration of the Halon 1301 extinguishing agent remains at or above 3% by volume at each point.

EASA's requirement for the duration of protection is the most up-to-date standard. It requires that the duration of protection be long enough to allow the plane to be flown from the worst-case point of occurrence on the planned route to the nearest suitable airport, allowing 15 minutes for the approach and landing and an additional

period of time for the plane to park and evacuate before the compartment's extinguishing-agent concentration falls below 3% at any point within the compartment (Ref: EASA Certification Specification, CS-25, "Large Aeroplanes" Book 2 "Acceptable Means of Compliance," Amendment 12 – AMC Subpart B, 25.851(b) "Built-in Fire Extinguishers for Cargo Compartments," Pages 2-D-73 to 2-D-78 July 2012; and JAA NPA25-D, F-316 Cat. I Items – "Mechanical Systems," 1 June 2002, pages 18/19).

Long-Term Benefits

By emphasizing the identification and mitigation of hazards, a Safety Management System will create a much welcome return on investment for an air carrier. Hazard identification and mitigation affords long-term benefits for its organizational structure, processes, and procedures – as well as for its personnel, equipment, facilities, and customers. Dollars saved by preventing the loss of precious lives, expensive airliners, and a good reputation.

Rules, rulemaking activity, and guidance are in place and/or under development by the FAA and other CAAs, notably the United Kingdom and EASA. With air carriers and CAAs working together to improve air-safety standards, hazard identification and mitigation will play an important role in minimizing risks and realizing true return on investment for air carriers worldwide.



For Further Reading

EASA Certification Specification, CS-25, "Large Aeroplanes" and Book 2 "Acceptable Means of Compliance," Amendment 12 – AMC Subpart B, 25.851(b). "Built-in Fire Extinguishers for Cargo Compartments," Pages 2-D-73 to 2-D-78, July 2012.

EASA Terms of Reference, Task Nr. 26.003, Issue 1, Dated September 17, 2010.

FAA Advisory Circular, AC120-92A, "Safety Management Systems for Aviation Service Providers," AFS-900, 8/12/10.

FAA Advisory Circular, AC25-22, "Certification of Transport Airplane Mechanical Systems," 3/14/00, Pages 98 and 99.

FAA Advisory Circular, AC25-9A, "Smoke Detection, Penetration, and Evacuation Tests and Related Flight Manual Emergency Procedures," ANM-110, 1/6/94.

FAA Code of Federal Regulations, Title 14 CFR Part 25 – "Airworthiness Standards: Transport Category Airplanes" FAA Code of Federal Regulations, Title 14 CFR Part 121 – "Operating

Requirements: Domestic, Flag, and Supplemental Operations."

FAA Notice of Proposed Rulemaking (NPRM), "Safety Management Systems for Part 121 Certificate Holders," Docket Number FAA-2009-0671. The projected publication date of the new rule was September 4, 2012.

JAA Notice of Proposed Rulemaking, "JAA NPA 25-D, F-316 Cat. I Items – Mechanical Systems," 1 June 2002.

UKCAA United Kingdom TGM/25/09, Issue 1, 29-11-2000, "Built in Fire Extinguishant Systems: Extinguishant Concentration Levels in Class C and D Cargo Compartments."

About the author

William A. Enk, Sr., is Chief Engineer at AAE LTD (Advanced Aircraft Extinguishers), a firm based near Kansas City, Missouri, specializing in aerospace fire-protection system design, engineering, manufacturing, testing, certification, and installation.



CLICK HERE: To learn more about Air Safety Standards.
<http://www.aae-ltd.com>

From the Top

Victor Mejia, Vice President, Tampa Cargo



Victor Mejia, Vice President, Tampa Cargo

Photo courtesy of AviancaTaca

Mr. Victor Mejia is Vice President of Tampa Cargo, which is an integral part of AviancaTaca Holding's cargo mix.

Focus : Victor Mejia, where does Tampa Cargo stand today?

Mejia : When Avianca and Taca merged, Tampa Cargo was already part of Avianca. After the merger, with the objective of maximizing the group's cargo related revenues, a Cargo Vice Presidency was formed, managing the cargo operations for all carriers in the AviancaTaca Holding as a single administrative task force. Tampa Cargo's role within the Cargo Vice Presidency is being the carrier designated for the incorporation of all cargo planes but managed as a whole along with the other carriers to form a complete and unique cargo organization, AviancaTaca's Cargo Business Unit.

Focus : How has Tampa Cargo's statistics fared during these last three years of diminished cargo numbers?

Mejia : Contrary to market trends AVTA Cargo Business Unit has reflected healthy and stable growth. The estimated cargo growth for 2012 is around 7% over 2011 and a 19% increase compared to 2009.

Focus : How has Tampa Cargo integrated into AviancaTaca Holding's vision?

Mejia : As per our vision, we are committed to having a competitive Cargo Business Unit with an extended network of passenger flights and a strong and reliable all-cargo aircrafts that when mixed together provide important revenues and profitability to the Holding.

We have taken firm steps into towards achieving vision; renewing our current 767-200 aircrafts for the new A330-200F.

Tampa Cargo's operation has grown alongside our passenger operations, because when the passenger-plane network expands throughout a region, so does the cargo business with it. Within the organization the business unit has been merged into a single commercial and operational Cargo Business Unit, AVTA Cargo VP, which enables us to work with an integrated route structure and service offerings. We have also been working on the modernization and standardization of the fleet to transfer the benefits derived from these strategic decisions to our customers.

Tampa Cargo covers more than 17 cities: four in Colombia, one in North America, four in Central America and eight in South America. We also reach more than 50 other destinations through agreements with other airlines allowing us to transport cargo to every continent. Together with the passenger networks of Avianca, TACA and AeroGal we are able to transport cargo to more than 110 destinations in 25 countries throughout America and Europe providing a wide service and route network.

Focus : What are the carrier's long-term growth plans?

Mejia : We are working to build a cargo operation with a presence throughout Latin America and the most important cargo gateways in North America. Our goal is to become the best logistics option for any person or company interested in transporting cargo to and from this region. We will gradually expand our capacity through fleet

renovation and adding new cities to our network while market conditions are improving.

Focus : In the future will the three airlines operate under one name?

Mejia : Yes, Avianca, Taca, Aerogal and Tampa Cargo will operate under a single commercial brand: Avianca. The new Avianca brings together the region's best companies, their people, culture and traditions. The aim is to be a world-class organization, born and strengthened in the region and unified to achieve a single commercial goal to become the leading airline in Latin America, and preferred in the world.

Focus : How do the airlines separate P/L cargo operations in passenger aircraft from the freighters?

Mejia : We have a detailed cost allocation methodology, which is defined and reviewed with the financial department of AviancaTaca Holding.

Focus : Do passenger aircraft subsidize the freighters?

Mejia : Throughout the companies that come together in the Holding, the goals of every business unit is to be self-sufficient and profitable on its own, but we do identify synergies between the areas; in cargo, we have achieved this through the integration of the freighter and bellies network.

Focus : Logistics- any plans to offer additional services?

Mejia : We are currently offering other services, aside from the transportation airport to airport of cargo, which include import and payment of cargo duties, documentary support in the United States, and multimode transport in some countries in America.

We also provide ground-handling service in Bogota to other airlines. In United States we also provide labeling, sorting, precooling and local delivery.

Focus : What innovations for perishable cargo distinguish it from competitors?

Mejia : Temperature control and a short transit time are key elements to prolong shelf-life of perishable goods. Therefore we have created procedures to guarantee adequate handling and invested in having the

infrastructure required to maintain a shipment's cold chain until it reaches final destination. We have products specially designed to fulfill the needs of our customers, among these, we have our Priority Cargo products that allow us to handle time-sensitive shipments with top boarding priority. We also offer additional logistic services for perishable cargo in Miami such as pre-cooling, sorting, labeling and local delivery.

Our new A330-200Fs have ventilation and temperature control on all decks, enabling us to transport cargo with different temperature requirements, including perishable goods, within the aircraft.

As of February 2013, we are able to offer a new service for shipments that require strict temperature control and monitoring through active CoolCare ULDs. This service is available for pharmaceuticals and high-value perishable goods.

Focus : Airbus announced AviancaTaca Holding's purchase of four A330Fs the first one arrived in December. How important is the A330F to Tampa Cargo's fleet?

Mejia : In line with the company's expansion and renovation strategies, we welcome America's first Airbus A330-200F freighter to Tampa Cargo's fleet. The new Airbus A330-220F is the most modern mid-sized freighter plane in the world, ideal for medium and long haul flights. We firmly believe these aircrafts are right for our operation because they meet the group's strict standards and create important synergies with our passenger A330s. We are able to offer our customers more cargo capacity, and it renews our commitment to the environment with fewer CO₂ emissions per ton displaced.

Focus : Where does AviancaTaca Holding plan to start this aircraft's operations?

Mejia : Due to the delivery date of the aircraft, its first assignment will be to support the high season for the flower export business, generated by Valentine's Day, from Colombia and Ecuador to the United States. Once this important high season is over, this aircraft will be incorporated into our regular freighter operations.

Focus : What are the plans for the B767's?

Mejia : The B767's are passenger airplanes fitted to transport cargo. The airline plans to gradually replace them as part of its fleet modernization-plan.



Focus : We read in Bonnie Hernandez's news release of new direct flights between San Salvador and Medellin Colombia. This flight increases connectivity with North America and strengthens the airline's hub in El Salvador. What additional new routes and destinations might also be added?

Mejia : Every time the passenger-route network expands, we have an increase in cargo capacity through the bellies of our passenger aircraft. We are permanently looking into different markets in order to grow and better serve our customers.

Focus : How will the existing route structures change?

Mejia : Current routes will continue to be served and as we continue to grow and consolidate we will strive to increase the connectivity within the network. Some countries in South America and points in North America will see more presence from our side.

Focus : AviancaTaca Holding's competitors, including LAN and Centurion, have enormous scheduling flexibility because they are either a US carrier or have access to a US carrier (LAN with Florida West). How does Tampa Cargo plan to address these issues?

Mejia : We continuously work together with the authorities in each country in order to help them become closer with the USA, improving bilateral agreements and free-trade treaties.

Focus : Are there plans to cooperate with a US carrier such as LAN with Florida West?

Mejia : As of now, we do not have concrete plans but we are

open to it.

Focus : How do natural disasters such as Hurricane Sandy on the East Coast or the seaport strikes on the West Coast affect cargo business?

Mejia : Our business is strongly linked with the economies of the cities and countries we serve. These events are accompanied with lower cargo volumes which are generally recovered once the situation comes back to normal.

Focus : Are plans to operate in Europe and Central America for the immediate or long-term future expansion?

Mejia : We currently serve both markets through the hubs in Bogota and El Salvador. In Europe we serve Madrid and Barcelona with direct passenger flights from BOG with A330s that allow us to offer an

important cargo capacity to that market. We have also begun cargo operations with a B767 200F to Central America since the second semester of 2012.

Focus : What role has Miami International Airport had in the growth of Tampa Cargo?

Mejia : Miami has been, and continues to be, an important operations center where most of the cargo coming from the US is consolidated to be exported to Latin America. This airport is a key player in the rotations of both perspectives: commercial and operations.

Focus : How important is aggressively promoting charter services originating from MIA?

Mejia : We do operate charter services departing from Miami, which depend on the market needs in order to be scheduled. Since Miami is an important operations center for our cargo business, we continue to build on and create these kinds of opportunities to both strengthen the operations as well as meet market demands.

Focus : Are there any additional thoughts you would like to share with our readers?

Mejia : After undergoing thorough market research and analysis alongside world-renowned marketing consulting firm, Lippincott, AviancaTaca Holding decided to deploy Avianca as the single commercial brand for all the airlines, both passengers and cargo, which compose the company.

We are confident that choosing Avianca as our unified brand will bring about a great amount of positive effects since it has the best positioning of our brands, presents a higher value to our customers, and demonstrates the largest potential to lift our company to new heights.

The new and improved brand will debut in the first semester of 2013 on planes, counters, and uniforms belonging to Avianca, Tampa Cargo, Aerogal, and TACA Group (TACA International Airlines, LACSA, Aviateca, and TACA Peru).

The process of using a single commercial brand for our airlines began in late 2009 when our companies successfully merged together and through this decision we hope to strengthen our position in our home markets in order to compete in a more complex and demanding environment.

Since the merger took place, 45 new destinations have been added to our route network, increasing our capacity over 37%.

We have also implemented steps that safeguard our operation under a single commercial brand, downsizing our aircraft families from 11 to 4 substantially lowering operational costs, the adoption of a standard technological platform for customer service, improved our unified Frequent Flyer program, LifeMiles, as well as joining the largest airline alliance in the world, Star Alliance.

Even though a single brand is very important to us, implementing it is the final step of the two-year process we have undergone since late 2009.

What we aim for is a world-class and unified in-flight experience for every one of our passengers. In order to offer a worldwide service we have created an internal program aimed at providing service with excellence with Latin flavor, throughout all our experience.

We are confident that by the year 2015 we will achieve our vision which is to be Latin America's leading airline, preferred around the world, since we have the best human talent

available working together day after day in order to make this happen.

Our company is growing from a group of airlines into a single Latin American airline striving to reach new heights.



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The Tampa Cargo Approach

Focused on Giving the Best

By Robert Christensen



The colors on the tails of AviancaTaca and Tampa Cargo both reflect the warmth of each respective airline and its company.

Transportes Aéreos Mercantiles
Panamericanos – Tampa Cargo S.A.
was created and began operations
with flower exports to America.

AviancaTaca Holding S.A and Tampa Cargo.

On October 7th 2009, Avianca and TACA Airlines and their respective subsidiaries announce publicly their intention to merge, in order to strengthen its strategic position in the region and enhance their ability to grow in the industry. In February 2010 investors formalized strategic union of their business and the companies began a rigorous process of administrative reorganization as well as the integration of their route networks, unification of their processes and the capturing of synergies between the airlines.

AviancaTaca Holding S.A. is a Panamanian company and was incorporated as an investment firm that serves as an instrument for the execution of the shareholders' agreement that enabled the integration process known as AviancaTaca Holding S.A. ; it represents the combined operation of various airlines that operate nationally and internationally, acting as the parent company of Aerovías del Continente Americano S.A. Avianca y Tampa Cargo S.A., constituted in Colombia, Aerolíneas Galápagos S.A. AeroGal in Ecuador, and the companies of GRUPO TACA: TACA International Airlines S.A., established in El Salvador, S.A.

LACSA Costa Rican air lines constituted in Costa Rica, Transamerican Airlines S.A. TACA Peru constituted in Peru, S.A. SANSÁ domestic air services incorporated in Costa Rica, Aerotaxis La Costeña S.A. incorporated in Nicaragua and island of investment C.A. de C.V. ISLEÑA incorporated in Honduras.

Tampa Cargo has over 100 airlines partners offering an efficient solution for transporting your cargo around the world. Tampa Cargo offers its business and customers satisfaction, with air and ground transportation alternatives that enable them to choose from fast and direct connections departing from any specific place needed.

Tampa Cargo services include, Priority shipment in the processes of deconsolidation and scanning, which ensure the rapid delivery to the land transport company

Tampa Cargo offers support and service for various procedures in different governmental entities such as the USDA and FDA. Including Pre-Cooling by reducing the temperature of the products, to prolong its life and maintain its quality. The carrier offers Classification and labeling according to customer needs, facilitating its delivery and distribution. To complement these benefits, Tampa Cargo has additional logistics services to help expand and simplify the logistics chain, maximizing the benefit of both.



Tampa Cargo, AviancaTaca Holding's cargo airline based in Colombia, took delivery of the first of four new A330 Freighter (A330-200F) aircraft at Airbus facilities in Toulouse.



CLICK HERE: For more information on Tampa Cargo.
<http://www.tampacargo.com>

Centers of Excellence

Tests Moving Forward

By Rick Eyerdam

U.S. Customs and Border Protection has announced its commitment to continue test development with Centers of Excellence and Expertise including the six new CEE centers identified in the Federal Register last August.

This decision, announced April 4 in the Federal Register, underlines the CBP decision to move forward with the test phase of the program despite the constraints of the on-going federal budget sequester.

According to the Federal Register announcement the six new CEEs—the Agriculture & Prepared Products CEE; the Apparel, Footwear & Textiles CEE; the Base Metals CEE; the Consumer Products & Mass Merchandising CEE; the Industrial & Manufacturing Materials CEE; and the Machinery CEE—“will be opened and tested to determine how they will operate with broad decision-making authority.”

At each of the 10 CEEs the expert staff replaces the involvement of the 300 or so port directors at Customs ports of entry after imported products are released. These segments risk allowing the port directors to focus more exclusively on security concerns, according to CBP.

The CBP documents state that, “The issuances of all requests for information and notices of action, extensions and suspensions of liquidations, and reviewing and acting on protests will be performed by the CEE director rather than the port director.”

Miami will host the CEE for all imported agriculture and packaged goods which are contained in the first 24 chapters in the vast Harmonized Tariff document. The textiles and apparel CEE will be based in San Francisco. Already CEEs have been established in Detroit for automotive and aerospace; Houston for petroleum, natural gas and minerals; Long Beach for electronics and New York for pharmaceuticals. Their operating rules were published at 52048 Federal Register / Vol. 77, No. 167 / Tuesday, August 28, 2012 / Notices.

CPB “invites public comment concerning the methodology of the test program, identifies the needs and proposes an expansion of “regulations that will be included in the test for the six new CEEs as well as the four CEEs currently participating in the test: the Electronics CEE; the Pharmaceuticals, Health & Chemicals CEE; the Automotive & Aerospace CEE; and the Petroleum, Natural Gas & Minerals CEE.

The stipulations for participation as explained in the Federal Register require an Importer of Record number, enrollment in the CTPAT (Customs Trade Partnership Against Terrorism) program as Tier 2 or Tier 3 members and completion of the Importer Self-Assessment (ISA) process. Participation in Air Cargo Advance Screening is always beneficial but it is not associated with CEE participation, which focuses entirely on post-release issues.

Applications for participations in the Base Metals CEE; the Industrial & Manufacturing Materials CEE; and the Machinery CEE, may be submitted beginning April 4, 2013 and selection of initial test participants for these three CEEs will begin no later than May 6, 2013. Applications will be accepted throughout the duration of this test.

For the Agriculture & Prepared Products CEE; the Apparel, Footwear & Textiles CEE; and the Consumer Products & Mass Merchandising CEE, applications for participation may be submitted beginning June 3, 2013 and selection of initial test participants for these three CEEs will begin no later than July 3, 2013. Applications will be accepted throughout the duration of this test.

Applications for participation in the test announced on August 28, 2012 in the Federal Register (77 FR 52048) will continue to be accepted throughout the duration of that test. Selected applicants for all of the CEEs will be individually notified of their participation date.

If interested in participating in the CEE test, the CBP request an email to CEE@cbp.dhs.gov, with a subject line identifier reading “Participating in CEE” that includes the information listed in the Application Process section of this document and identify the name of the CEE, or (2) a letter directed to U.S. Customs and Border Protection, Office of Field Operations, Trade Operations Division, 1300 Pennsylvania Ave. NW, Suite 2.3D, Washington, DC 20229-1015.





AfA's Executive Director Brandon Fried America's air-cargo industry annual conferences started this year in Las Vegas with AirCargo 2013.

Air cargo industry skeptics would certainly have been in for a surprise as almost 1000 industry professionals descended upon Las Vegas recently for AirCargo 2013. The annual event usually starts the busy spring freight-conference season along with several events sponsored by an alphabet soup of organizations including IATA, CNS, WCA and TIACA to name a few.

This year's conference informally opened with a golf tournament and luncheon where attendees had an opportunity to show off their skills and network. Golfing was followed by a seminar on lithium-battery transportation in which attendees learned about new and proposed air-transportation regulations concerning this important topic.

The annual Women's Networking Event has now become a popular staple of the annual AirCargo conference where people gather, share experiences and provide advice for women in the transportation industry. Delta Airlines sponsored the event and has pledged its support for next year as well.

The actual conference began on Sunday evening with dinner and a reception in the sold-out exhibit-hall where forwarders, airlines, truckers, couriers and other industry vendors gathered for good food and socializing. The AirCargo exhibit hall program is one of the most popular in North America with demand increasing, especially from international airlines seeking to grow U.S. market share. Exhibitors enjoy visiting with attendees who gather in the hall between plenary sessions and individual association meetings.

Four organizations sponsor the annual AirCargo event including the Express Delivery & Logistics Association, the Air & Expedited Motor Carrier Association, the Airforwarders Association and its newest partner, Airports Council International-North America. People say they enjoy the multimodal approach to the conference as air couriers, airfreight truckers, airfreight forwarders, and now airport managers bring interesting perspectives.

After an impressive national flag-presentation by the Nellis Air Force Base flag color guard, industry veteran Dave Beatson opened as keynote speaker. Beatson has more than 35 years of transportation, freight-forwarding and third-party logistical experience. His background as the CEO of Emery Worldwide, Circle International, Panalpina North America and as Vice President of Cargo for American Airlines made him an ideal presenter. The crowd was not disappointed as Beatson shared his past successes and thought provoking predictions for the future.

Since the conference attracts so many air-cargo related disciplines, its programming celebrated this diversity by featuring topics that influence all. The first panel included an informative discussion on what airports

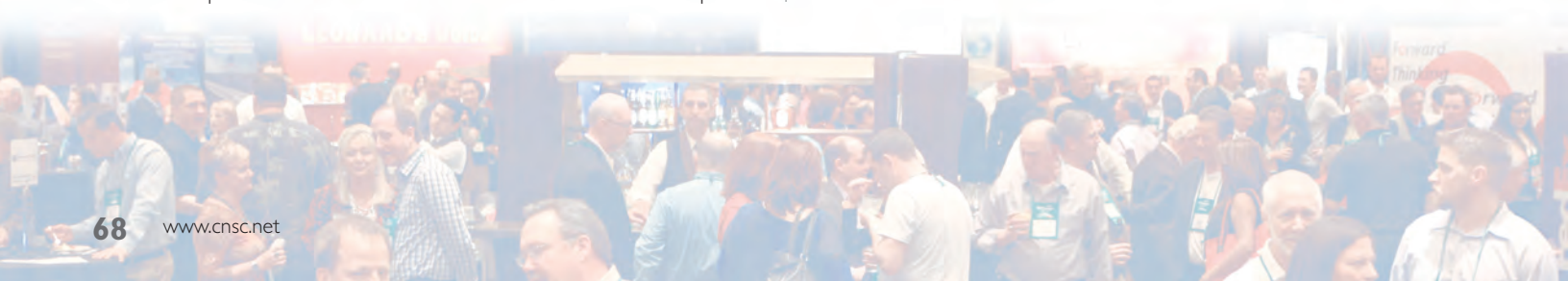
provide today and their plans to meet the air cargo industry's needs for the future. Experts came from throughout the country to discuss what an airport offers and how these facilities are changing to meet the rapid changes within air-cargo.

Only fortunetellers really know the future effect that the upcoming Panama Canal expansion will have on the freight-transportation industry within the U.S. Therefore the conference included an informative panel that discussed this exciting development. The Panama Canal will have the capacity to handle the largest container ships, which will drastically increase the cargo tonnage brought to US ports. This will increase the need for our industry to transport shipments from these ports to points throughout North America. The group was led by Byron Countryman, an attorney from Los Angeles who is familiar with trade matters, and included a representative from the Panama Canal Authority.

Since virtually all airfreight shipments either begin or end on a truck, the panel concerning trucking-industry challenges and their effect on freight forwarders was certainly popular. The group included lawyers and insurance professionals who discussed how recently passed transportation legislation could affect airfreight stakeholders and their pocketbooks in 2013. The pitfalls of negligent trucker selection and the new legal requirements of forwarders and couriers arranging truck shipments were a significant discussion concern.

Cargo theft, embezzlement and loss, costs forwarders, truckers and the entire transportation industry hundreds of millions of dollars a year. This is why the program included an expert who showed the attendees ways to spot drug abuse and organized gang activity within the workplace. The audience was riveted by photos and advice provided by a former LA County police officer who said our industry unfortunately is one of the biggest victims of such crime.

Despite a government-issued travel ban on TSA and CBP employees, the conference was able to hold its annual popular regulatory briefing. Leadership from both agencies called the auditorium from Washington and discussed current issues of concern. While their telephonic attendance was appreciated, next year these officials will hopefully be able to join us in person. The annual AirCargo event is also known for its fun activities. A bowling event sponsored by American Airlines provided an opportunity to meet, greet and have fun. The following night was spent at a German-style beer garden that served as a backdrop for airline-ticket raffles and a final networking event sponsored by Southwest Airlines. All post-conference surveys indicate that AirCargo 2013 was very successful.



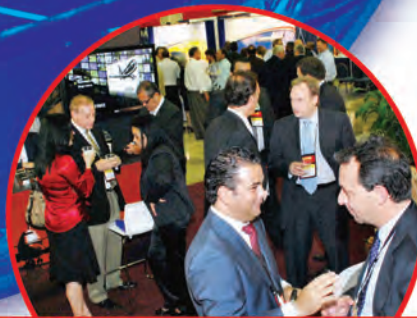


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Globalization

A powerful level for economic growth

By R.E. "Red" Alexander, Vice President, DHL Express

If you listen to globalists like Thomas Friedman, the world is flat, and we are already inextricably intertwined.

There is a certain truth in Friedman's view. Every night freighters land at DHL's hubs in the Americas and packages are unloaded from Seoul and Sydney, Bogota and Bahrain, Panama City and Paris. Before the night is through, those freighters are reloaded with U.S. goods and are bound for destinations around the world. Surely, this is proof positive of global trade driven by closely linked countries- pulsing through our sorting facilities and then delivered by our couriers. Yet a recent study, called the Global Connectedness Index, commissioned by DHL and conducted by the leading economist Dr. Pankaj Ghemawat, presented some surprising results- countries are not as closely linked as previously believed. Globalization is not a given in 2013. In fact, globalization took a big hit with the financial crisis of 2008. The study documents how global connectedness, measured by international flows of trade, capital, information and people, grew rapidly between 2005 and 2007, and then dropped sharply at the onset of the financial crisis. Despite modest gains since 2009, global connectedness has yet to recapture its pre-crisis peak. The DHL Global Connectedness Index provides a comprehensive look at the state of globalization around the world. It analyzes 140 countries not only on the depth of their cross-border interactions but also their geographic breadth – distinguishing countries that are truly connected across the globe from those with deep ties only to a small set of partner countries. For instance, Netherlands ranks number one in terms of overall connectedness. A highly developed but small country, trade – both imports and exports – is its lifeblood. Hong Kong scores the highest on depth because of the high percentage of its trade, capital and information that flows across its borders. The United Kingdom tops the list for breadth, because of its trade links to nearly every country around the world. The United States ranks 20th overall, but comes in at number two in terms of breadth because like the U.K., it has a broad number of trading partners. The study shows that distance and borders matter – even online. Most international flows take place within rather than between regions. Even online connections are mainly domestics and

decline with distance.

Europe is the world's most globally connection region, clearly demonstrating what the European Union's regional integration has managed to achieve – and what fragmentation can put at risk. Nine of the 10 most connected countries are in Europe. North America is the world's second most connected region, reflecting the high level of economic development in the NAFTA countries – the U.S., Canada and Mexico – as well as the large populations in all three countries. Even though globalization hasn't returned to its pre-crisis levels, it is having a significant impact on markets and industries. We know from the origins and the destinations of the goods we carry in the bellies of our aircraft that the world's economic center of gravity has shifted in the last decade. That's forcing companies and industries to adapt their business strategies to respond to a shift in production and consumption, hence, the fast-growing trade lanes with Asia and Latin America's emerging markets. For instance, the GCI study points out that the telecommunications industry has already shifted production and is seeing continued sales growth in emerging markets. This shift is in progress for the auto makers. The pharmaceutical companies are still focused on the industrialized countries, but some firms have started to adjust business strategies to capture future growth where it's happening. The U.S. as well as every country has the opportunity to promote connectedness via trade policies that directly target globalization and at the same time, enhance domestic business environments. The study estimates that global GDP increases of 5% to 10% per year can be reached if policy options for increasing connectedness are implemented, equalling hundreds of billion – even trillions – of dollars. Transportation and logistics providers play a key role in broadening globalization. We create the connections that allow cross-border commerce and lead to economic growth. Even when the current outlook for the world economy remains uncertain – many risks remain that could derail growth such as the Euro debt crisis – increasing connectedness can be a powerful lever for boosting economic growth and building a prosperous future. The GCI study concludes that potential gains from boosting connectedness, which leads to greater globalization, can reach trillions of dollars.

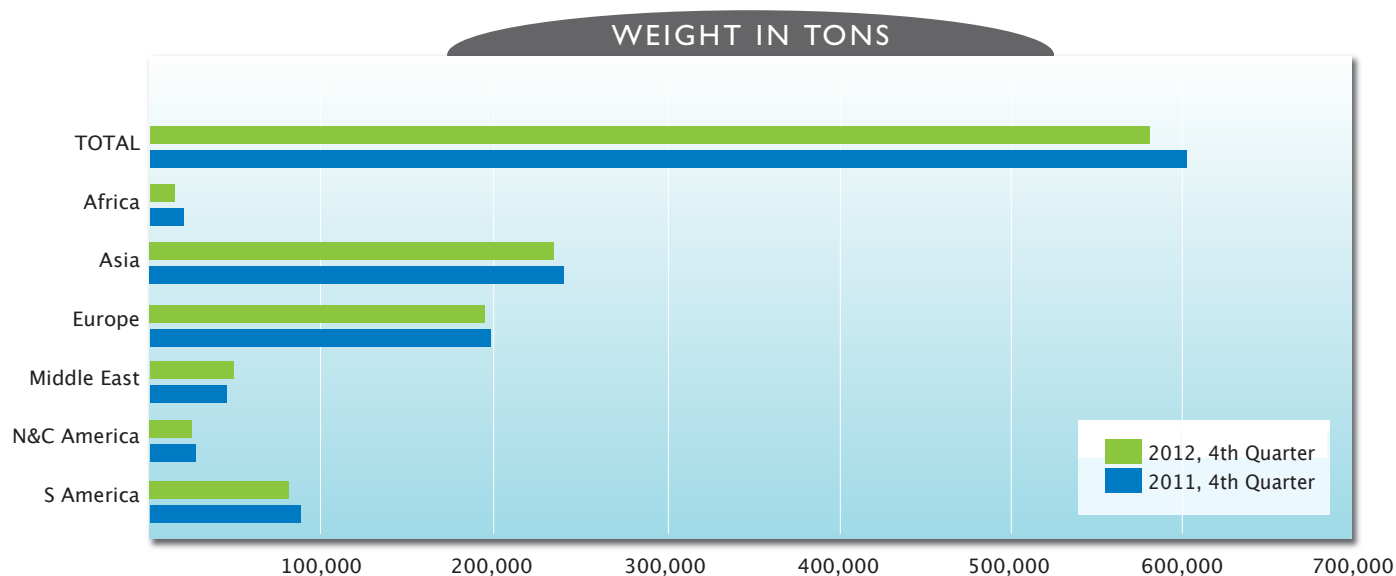


CASS-USA Market Monitor

CASS-USA Market Monitor appears in every issue of CNS Air Cargo FOCUS. It is designed to provide an overview of the results of the most recent quarter and highlights both the year-to-date activity and monthly review of traffic originating from the USA as processed by CASS-USA. More detailed reports are available to CASS-USA Participating Carriers and CNS Endorsed Agents. Contact Michael Ludovici at Cargo Network Services at (786) 413-1000 or mludovici@cncs.us for more information.

2012 Weight in Tons		2011 Weight in Tons		2012/2011	
Region	4th Quarter	Region	4th Quarter	Region	4th Quarter
Africa	13,938	Africa	15,096	Africa	-7.7%
Asia	223,269	Asia	233,798	Asia	-4.5%
Europe	195,168	Europe	209,096	Europe	-6.7%
Middle East	43,577	Middle East	42,679	Middle East	-2.1%
N & C America	21,704	N & C America	22,386	N & C America	-3.0%
S America	72,746	S America	79,601	S America	-8.6%
Total	570,402	Total	602,654	Total	-5.4%

2012 Shipment Count		2011 Shipment Count		2012/2011	
Region	4th Quarter	Region	4th Quarter	Region	4th Quarter
Africa	26,916	Africa	28,175	Africa	-4.5%
Asia	271,396	Asia	277,686	Asia	-2.3%
Europe	218,195	Europe	234,955	Europe	-7.1%
Middle East	53,407	Middle East	53,256	Middle East	0.3%
N & C America	28,442	N & C America	29,848	N & C America	-4.7%
S America	71,462	S America	76,779	S America	-6.9%
Total	669,818	Total	700,699	Total	-4.4%



December

During December, total U.S. export revenue decreased 8.4% y/y, down -7.1% in November, and -8.2% in October. U.S. export tonnage was down 5.5% y/y, also down versus -4.4% in November, but slightly above -6.1% in October. Yields fell as well, -3.1% y/y in December, versus -2.8% and -2.2% the prior two months. Tonnage to Asia (representing 40.8% of tonnage) decreased 2.1% y/y, improved from -5.4% and -6.1% the prior two months. Export tonnage to Europe

(representing 33.4% of tonnage) fell sharply -9.6% y/y in December, from -3.6% and -6.6% the prior 2 months. Sequentially, revenue and tonnage both grew fairly stronger in December, rebounding from a difficult November, while yields grew more modestly on a sequential basis. Overall, December was a fairly weak month, and the fourth quarter showed a 7.9% y/y decrease in export revenues, a 5.3% decrease in export tonnage, and a 2.7% decrease in yields. On a year-end

basis, 2012 remained an overall soft year for airfreight with export revenues decreasing 6.2% y/y, tonnage decreasing 4.7%, and yields decreasing 1.6%, as the secular shift to ocean seemed to gain momentum with shippers planning for tighter budgets. Looking forward, expect some seasonal bumps early into first quarter due to Chinese New Year, followed by a reacceleration in spring.



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