



Lufthansa Cargo

planet

Special Edition: Enabling Agriculture and Food Industry



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IMPRINT Publisher: Lufthansa Cargo AG **Responsible for publisher:** Jacqueline Casini (Director Communications) **Project Management:** Bettina Petzold (Head of Marketing Communications), Nina Krüger (Marketing Communications), Sabrina Chaudhry (Marketing Communications) **Address:** Lufthansa Cargo AG, FRA F/CI, Frankfurt Airport, Gate 21, Building 322, 60546 Frankfurt/M., Germany. www.lufthansa-cargo.com **Realization:** PRH Hamburg Kommunikation GmbH. www.prhamburg.com **Photos:** Cover and Backcover: Lufthansa Cargo, Shawn Baldwin (22-23), Duemmen Orange (18), F1 online/First light (24), Fotolia/recyap (15), Kai Hartmann (3, 6-7, 25), Bernhard Huber (3, 4-5, 10-11), Interfoto (14), iStock/Sisoje/Benedek (13), iStock/Yinyang (19), Klein Karoo Proprietary International 2015 (17), Ralf Kreuels (2, 8-9), Lufthansa Cargo (28), Mauritius images/Image Broker/Dirk Bleyer (3, 16), Volker Roemer (20-21), Christian Schmid (26-27), Shutterstock/Piti Tan (2, 12)





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tonnes of fish and seafood were airfreighted in 2017, making it the second-largest freight group in the perishables segment.

Market

Fit for fresh

Faster means fresher. That is why airfreight is often the first choice for perishables. Fruit and vegetables, fish, flowers and meat must reach supermarket shelves fresh and in top condition – even if the production or harvest regions are 10,000 kilometers away from the consumer. It is a challenge even for genuine professionals, because the perishables market is subject to the vagaries of nature, and therefore difficult to predict. It can happen, for example, that fruit harvesting in California starts three weeks earlier than usual, which means a totally reliable and seamless cold-storage transport chain with large capacities must be ready to spring into action. “Balance the imbalance” – is the credo and fine art of the perishables specialists. Yet the extra effort is well worth it, because the market is expanding at an above-average rate, and there is further potential for growth.

In the year 2017, airfreighted perishables accounted for around 3.89 million tonnes worldwide, according to the experts from Seabury Consulting, or about 16 percent of the total volume of airfreight of about 23.88 million tons. The dominant perishable product groups were fruit and vegetables with around 1.34 million tons, followed by fish and seafood (1.01 million tons), flowers (760,000 tons) and meat (211,000 tons).

According to the latest figures available from WorldACD, airfreighted perishables showed growth rates of between 6 and 12 percent. The reason for the expansion is the rise in living standards in the enormous markets of India and China. Ever increasing numbers of people in these regions want, and can afford, fresh fruit, fish and meat. The trend for countries like China to make use of large agricultural production areas in other countries to feed their own populations is also boosting the demand for transport capacities for perishables and will continue to do so in the future.

24

hours a day

and seven days a week, a personal contact is available for customers who have booked "Fresh" in connection with "td.Flash" to answer questions about their consignment currently in transport

Lufthansa Cargo

Fresh to the max

Imagine: whole shipments of roses from Kenya have to be transported to major international markets in perfect condition, and they must open just as they reach their destination. All year long, fresh-caught Norwegian salmon must reach points of sale all over the globe so that it can be served fresh on consumers' tables. In both cases, freshness is indispensable. In both cases, the answer is "Fresh" by Lufthansa Cargo.

With "Fresh", Lufthansa Cargo offers a product that meets the special needs of perishable goods. A predominantly temperature-controlled environment during flight and storage, and specially trained personnel, make sure that all perishables arrive fresh.

Our worldwide logistics network offers fast flight connections to some 300 destinations in more than 100 countries with storage in predominantly temperature-controlled environments and at the Lufthansa Cargo Hub Frankfurt in Europe's largest cooling center. For each individual shipment, the customer can decide whether it should arrive by standard freight or at high speed, by choosing either "td.Pro" or "td.Flash".

www.lufthansa-cargo.com





Fresh

Get it there
fresh.



td.Pro

When time
is crucial.



td.Flash

When time is
everything.



At Vegpro's packhouse at the airport in Nairobi, the various types of vegetables are made ready for onward shipping to Europe by airfreight. Vegpro is a certified Known Consigner

Vegpro, Kenya

Crisp job

The 350-hectare Gorge Farm is located in the southwest of Kenya and extends from outside the entrance to the “Hell’s Gate” national park right through to Lake Naivasha. Employing 1,200 workers, it is the biggest farm operated by Kenya’s leading vegetable producer and exporter, Vegpro Limited. Established as far back as 1979, Vegpro is still a family-run company and operates according to the principles of sustainability. Surplus production is processed for use in the canteen or donated to local schools. Waste is recycled for energy production in the company’s own biomass power plant. The farms grow broccoli, spring onions, asparagus, cauliflower, zucchini and beans. Vegpro operates six of its own farms, and in addition the company manages around 1,700 smallholdings.

A challenge for farming in Kenya is its dependence on the seasons. Thanks to the constantly mild climate, the farms can grow vegetables all year round. Yet during the European summer, demand for imported vegetables drops off markedly. The climate is also an important factor. Vegetables grown in Naivasha usually require about three months until they are ready for harvesting. But if it rains more than expected, there are growth surges that have to be taken into consideration.

After all, the quality of the produce still enjoys top priority. Appearance, taste and texture – all of these aspects have to

be just right for the vegetables to find a buyer. Accordingly, seafreight is not an alternative for Vegpro. The company’s packhouse in Nairobi is located directly at the international airport of the Kenyan capital. And because the merchandise needs to be dispatched as early as possible, Vegpro is also a certified Known Consignor: this means that the goods are checked and packaged on Vegpro’s premises and do not require additional checking by the airline.

Vegpro covers the approximately 100 kilometers from the farm in Naivasha to the airport with its own refrigerated trucks. However, traffic jams causing hours of delays frequently occur, especially in the immediate catchment area of Nairobi, and this poses serious problems for the fresh food business. Using its own trucks, this means that the company can retain control over this link in the supply chain at least.

The choice of airline is not arbitrary either: for the French and the UK markets in particular, Vegpro relies heavily on the “Fresh-To-Door” delivery service offered by Lufthansa Cargo. Network and quality fully satisfy Vegpro’s requirements, and with “Fresh”, Lufthansa Cargo has a product that is customized to suit the needs of perishable goods. Another decisive factor is the close cooperation between Lufthansa Cargo’s perishables handling team in Frankfurt, which coordinates onward transportation like to-door trucking together with the Perishable Center Frankfurt.

Marine Harvest, Norway

Hurtigruten

Whether prepared as sushi or sashimi, or simply grilled – salmon enjoys huge popularity all over the world. And demand is on the rise. In the medium term, transportation of fish by airfreight is expected to grow by between eight and nine percent per year. Marine Harvest, one of the world's leading fish producers and based in Norway, keeps a close eye on the market. The company is proud of its highly specialized logistics and value-added chain. Around one quarter of Marine Harvest's production leaves Norway by plane. Temperature-controlled transportation of goods like fish account for more than 80 percent of Norway's total exports in terms of tonnage.

Set amid the picturesque fjord landscapes in western Norway, the Atlantic salmon are reared to maturity inside large nets floating in the sea. Not far from the fish farm, Marine Harvest opens the gates to one of its five fish processing factories in Norway. Here, some 3,500 salmon are processed and packaged every hour. Hygiene, speed and the ultimate in quality are assigned top priority. Because the customer is only concerned with one thing: freshness.

In addition to tried-and-tested partners, the company also relies on its own logistics operation. The merchandise is consolidated at Marine Harvest's central hub in Oslo. This is where all the factories deliver their fish. Fast in, fast out is the motto during palletization in preparation for transportation by plane. Thanks to certification as a Known Consignor, the cargo does not need to pass through further security checks at the airport.

The service provided by the airfreight partner is also under constant review: good service, reliability, professional personnel and a global network are all important factors. The Lufthansa Cargo freight planes fly to Marine Harvest's key markets in Japan and the Middle East directly from their hub in Frankfurt. Speed and reliability of "Fresh" makes them the ideal partner for the salmon professionals in Norway.

>>> First published in **planet** 2/2016

In Bokna Fjord, Tom Mikkelsen, Head of Airfreight at Marine Harvest, and Alexis von Hoensbroech, former Member of the Executive Board, Chief Commercial Officer at Lufthansa Cargo, inspect a salmon farm located just a few nautical miles north of Stavanger





BKK



Fast flora

Thanks to the network of Lufthansa Cargo, orchids from Thailand fly halfway around the globe in record time. Many people regard the orchid as the queen of flowers. For the Thais, they form part of their own identity. Excel Transport International Co. Ltd. is a company specializing in the shipping of perishables out of Bangkok. Around 50,000 tonnes of orchids are produced every year – with half destined for export. Orchids are much loved in Japan, China, Italy, the United States and Canada. The plants need to be kept within a narrow temperature range of between 15-20 degrees, which calls for an efficient network that offers many direct flights – as is the case with Lufthansa Cargo. From the field, the orchids are taken straight to Suvarnabhumi International Airport (BKK) in Bangkok in refrigerated trucks. An Austrian Airlines Boeing 777-200 destined for Vienna leaves the Thai capital just before midnight on seven days a week. In Vienna, the sensitive freight is transferred into the belly of Austrian OS071. The journey then continues for another nine-and-a-half hours to Toronto Pearson International Airport (YYZ) in Canada. The orchids only need about 26 hours for the 15,300 kilometer route.



YYZ

Fresh from Thailand to North America: kept within a temperature range of between 15 to 20 degrees Celsius, the orchids reach their destination in 26 hours



DKR



Sunshine is what makes the difference: mangoes airfreighted from Senegal to Europe can be left to ripen on the tree for longer than fruit that is shipped by sea. It is a difference you can taste



Flying fruit

Only the best are allowed on board. The fruit export company Fresh Exit in Dakar (DKR) is a mango expert. Here in Senegal there are large mango growing areas. The price is determined by the taste. For sea transport mangoes are usually harvested early and the fruit is left to ripen during transit. As a result their taste is inferior. This is why Fresh Exit's partners leave them on the tree a little longer – and then fly them to the consumers. After picking, the mangoes are cleaned, sorted and packaged in warehouses close to the plantations, before being transported to the airport in refrigerated trucks. At Léopold Sédar Senghor International Airport in Dakar, Lufthansa Cargo and its partner Brussels Airlines Cargo ensure smooth transportation as a “Fresh” shipment to the Frankfurt hub and on to Brussels (BRU). Being transported on board a freight plane makes all the difference: In the past, food inspectors had rejected up to 60 percent of the imported fruit. Today, thanks to optimized processes, it is no more than ten percent.

JNB



Gourmets around the world appreciate the low-fat, protein-rich ostrich meat. From South Africa, the meat reaches restaurant kitchens everywhere – in Paris, for instance – as fresh as can be





It does fly!

One bird simply must be on the menu in the award-winning restaurants of Paris: the African ostrich. The meat of this flightless bird has become an indispensable item on haute cuisine menus in France. Around 75 percent of worldwide exports of this delicacy originate in South Africa. Klein Karoo International is South Africa's largest exporter of ostrich meat. The company operates abattoirs specializing in export only and complying with the strict European hygiene regulations. While ready-to-cook portioned and cooked pieces of ostrich meat arrive in Europe by sea freight, the premium cuts travel by air, still raw and vacuum-packed: by truck with refrigerated swap body it is carried over dusty tracks to Johannesburg, to O.R. Tambo International Airport (JNB). Shipped as a "Fresh" consignment, the cargo reaches the Lufthansa Cargo Perishable Center, where it is transferred to a refrigerated truck. In this way, the ostrich meat arrives at its destination, the Paris Charles-de-Gaulle airport (CDG), quickly via the Road Feeder Service (RFS).

ADD



Blossoming freight

Out of Africa, and often blossoming on German balconies: the geranium. Dümmer Orange, one of the world's leading cultivators of cut flowers, pot and bedding plants as well as perennials, imports some 100 million geranium cuttings from Ethiopia during the period from Christmas to March. One of the company's most modern cuttings farms is in Koka, near the Ethiopian capital of Addis Abeba (ADD). Once the plants are sufficient in numbers and strength, it is time to harvest the new cuttings. The fresh shoots are very sensitive, however. Transportation must not take longer than two days. It means that shipping by sea is not an option. The cargo is transported to Bole International Airport in Addis Abeba in a refrigerated truck, and then takes off as temperature-controlled airfreight. During peak season, Lufthansa Cargo flies geranium cuttings over the 5,340 kilometers to Frankfurt Airport (FRA) up to six times a week – for example in the belly of an Airbus A330-300. After landing and inspection by the plant protection service checking for pests, the cuttings make their way by Road Feeder Service to the Dümmer greenhouses in Rheinberg, where they can take root again and grow until they are ready for sale.

→ FRA

Thank you for the flowers:
the sensitive geranium
cuttings from Dümmer
Orange on their way from
Ethiopia to Germany by
freight plane



The Perishable Center Frankfurt

Frankfurt Airport, with its modern Perishable Center (PCF), is Europe's largest transfer center for sensitive freight. Lufthansa Cargo is the only airline that has its own Competence Team at the PCF. The team coordinates the entire fresh goods loading process and guarantees maximum quality for "Fresh" products

Direct connection to the apron.

The "Fresh" Team ensures that cargo planes carrying fresh goods receive docking positions directly at the PCF, thus shortening both transport routes and transit times.



Allocation area.

The fastest possible transit is high priority for the "Fresh" team, and they make sure that fresh goods are moved from the allocation area as quickly as possible. In extreme weather, the pallets can be stored temporarily in a temperature-controlled tent. In addition, the handling team measures the temperature of the shipments. This information is made available to clients in the Perishable Tracking List.





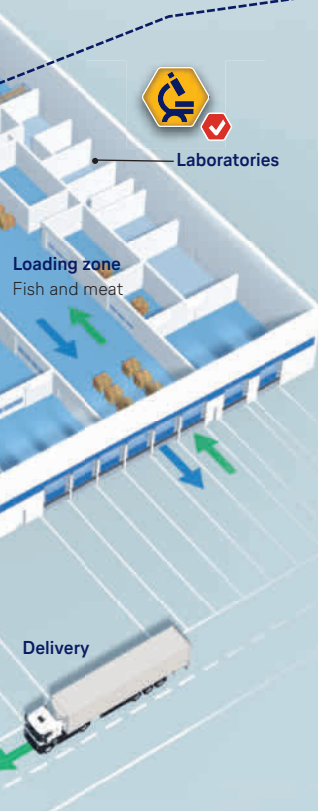
Document handling.

For "Fresh To-Door" shipments, the Competence Team will, if the client so wishes, take over the freight documents directly upon arrival of the cargo plane and ensure a speedy customs clearance with its Fast Document Service.



Sorting hall

Here incoming goods are inspected and the consignments are designated to their appropriate temperature areas. All official inspections take place here as well.



Laboratories

Loading zone
Fish and meat

Delivery

Import

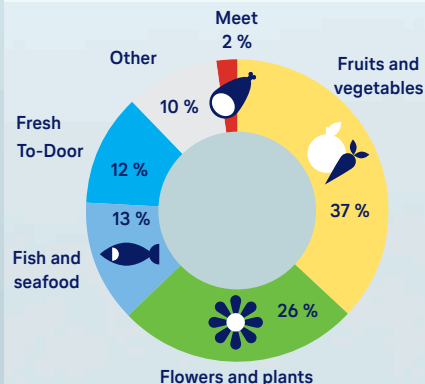
Fruit, vegetables, and flowers are imported primarily from South America, Mexico, and Kenya. High-quality meat comes from Uruguay, and fish predominantly from Northern Europe.



The Perishable Center Frankfurt

With 9,000 sqm of storage space, the PCF offers 20 monitored areas, in which the temperatures can be adjusted between -24°C and +24°C.

What gets transferred?

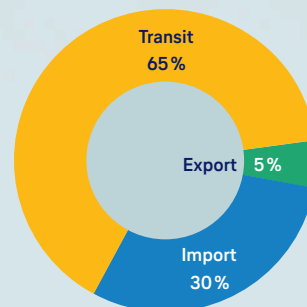


Authorities

The PCF makes efficient processing easy, since all authorities are represented on site. All necessary inspections can be performed in a temperature-controlled environment.

- Planet protection
- German Federal Office for Agriculture and Food (BLE)
- Veterinary office

Average processing distribution



Fresh To-Door

"Fresh To-Door" makes it possible to deliver goods directly to the leading flower and food markets in Europe through the Frankfurt hub. If the client wishes, the "Fresh" team will take over all paperwork directly at the plane, thus speeding up customs clearance.



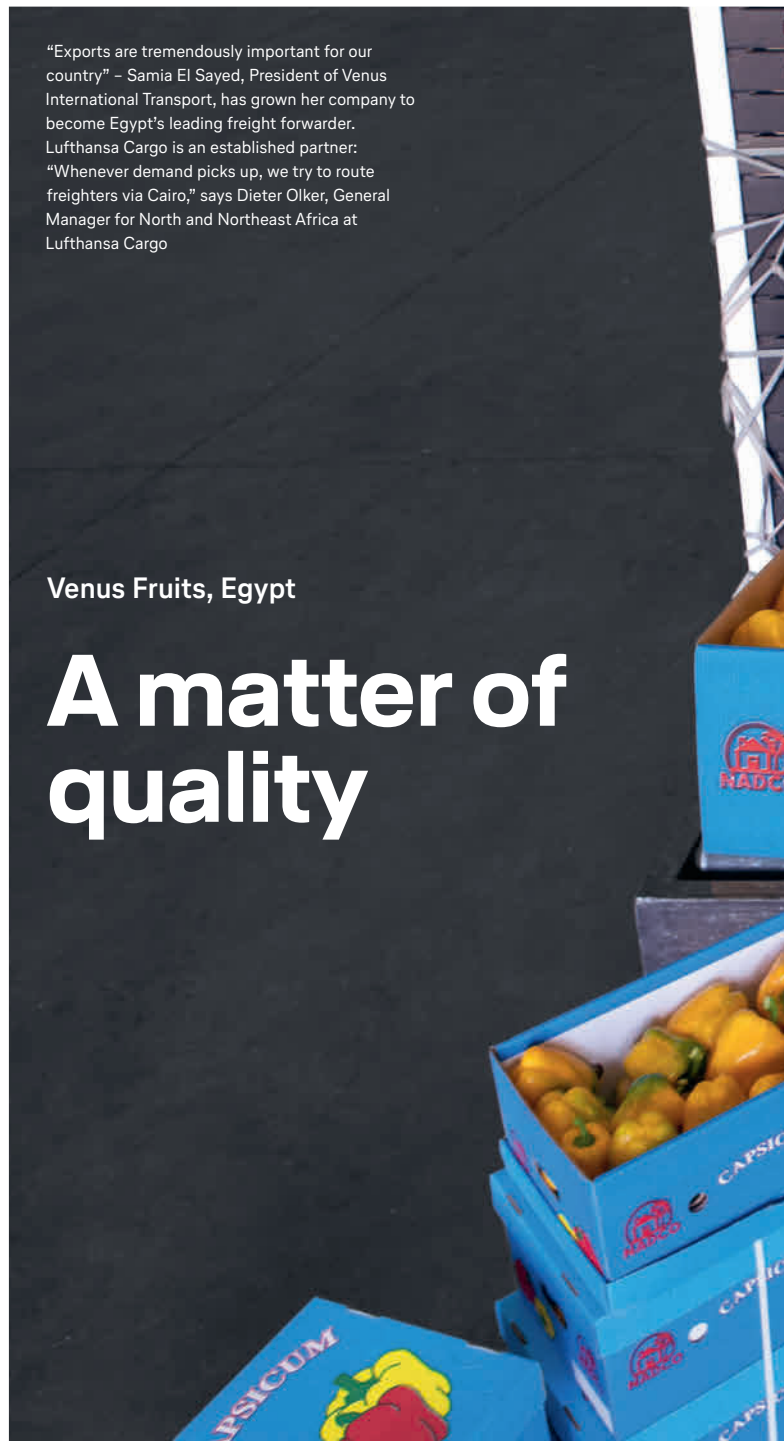
Dreams become true. Samia El Sayed established her company Venus International Transport in 1986. Today Venus is Egypt's leading airfreight forwarder, handling an export volume of between 40,000 and 45,000 tonnes annually, with a workforce of more than 60 employees. 85 percent of the turnover is generated by fresh fruit and vegetables. Be it strawberries, grapes, green beans, peppers, spring onions or cherry tomatoes from Egypt – the refrigeration chain to the main markets in the Netherlands, France, the UK and Germany must be seamless. And so El Sayed had a dream: “Right from the start I dreamed about a cold-storage warehouse, and I told everybody about my dream,” Samia El Sayed recalls. “After hearing about it, Lufthansa’s man in Cairo arranged for a visa for Germany for me within two days, and then he showed me around the Perishable Center in Frankfurt. It then took me another five years of hard work to persuade the trade associations and government authorities before we were finally able to build a cold-storage warehouse at Cairo Airport as well.” Ever since Cairo established its own Perishables Terminal, the forwarding entrepreneur has been able to enjoy better sleep: Lufthansa Cargo staff are always mindful of handling the cargo carefully, and they check the goods delivered to the airport in refrigerated trucks. “And I know that Lufthansa Cargo delivers on time!”

>>> First published in **planet** 1/2012

“Exports are tremendously important for our country” – Samia El Sayed, President of Venus International Transport, has grown her company to become Egypt’s leading freight forwarder. Lufthansa Cargo is an established partner: “Whenever demand picks up, we try to route freighters via Cairo,” says Dieter Olker, General Manager for North and Northeast Africa at Lufthansa Cargo

Venus Fruits, Egypt

A matter of quality







The lion's share of lobster caught worldwide is accounted for by the American lobster (*Homarus americanus*). From the fishing grounds off the American east coast to the world's kitchens

American lobster

Claws

American lobster is a sought-after delicacy around the world. The richest fishing grounds lie off the east coast of North America. It is from here that most of the lobster embark on their journey to the world's gourmet kitchens. With a temperature-controlled transport chain and meticulous planning, Lufthansa Cargo ensures that the crustaceans arrive fresh on European or Asian plates no later than 96 hours after being caught. In the US federal state of Maine and in the provinces in eastern Canada, lobster come in all conceivable varieties. Some 130,000 tonnes of the crustaceans were caught in these regions between 2010 and 2012. Their value: almost a billion dollars. Tens of thousands of people earn their livelihood directly or indirectly through lobster fishing. While it is a staple food for the locals, the rest of the world regards the American lobster as a

delicacy: in 2011 almost 18,000 tonnes were exported to the EU alone, mostly in live seafood transport. And demand keeps rising, for example in Asia. This calls for the highest requirements in terms of transportation. The sensitive crustaceans must be packaged individually, and the distribution cold chain must be maintained at all times. It also needs to be quick. This is why Worldwide Perishables (WWP) – one of the companies exporting lobster from this region – relies on Lufthansa Cargo and “Fresh”. The airfreight experts deliver the marine creatures via Boston and Frankfurt to the wholesale and specialty markets in Europe and Asia.

>>> First published in **planet** 1/2014

The value of the rose

Flowers – fair and ecologically sustainable: should it be the red Furiosa, or preferably the Athena in white? Or both, and a whole lot of other varieties more? Omniflora has hundreds of different premium roses in its range. The company from Neu-Isenburg near Frankfurt primarily supplies major retail chains, but also wholesalers. The flowers come from Kenya and Tanzania in East Africa. Almost all of them are traded under the rules set by the Fairtrade Labelling Organizations International (FLO). From the Kenyan capital of Nairobi, a substantial proportion of the roses are transported to Germany in MD-11 freighters from Lufthansa Cargo. There are several flights from Nairobi to Frankfurt every week, and they always carry Omniflora cargo on board. The company established in 1994 and operating with a workforce of 75 exports over 4,000 tonnes of flowers from East Africa annually, with a

rising tendency. The flight from Jomo Kenyatta International Airport to Frankfurt takes about eight hours. During this time – as during transportation by truck from the farms to Nairobi – the sensitive cargo is stored in special airfreight boxes. “Precooled in a complex process, the flowers are well conditioned for transportation,” explains Omniflora Managing Director Klaus Voss. The section of the supply chain that goes over land is also optimized down to the very last detail. Moreover, shipping flowers by airfreight also makes ecological sense. Growing roses in Germany requires a great deal of energy for lighting and heating. In East Africa, the intensive sunlight is free. This is why CO₂ emissions from cultivation in East Africa is only about one-seventh of what it would be in Germany – and this figure includes transportation.

>>> First published in **planet** 2/2011

“The carbon footprint of roses from East Africa is seven times better than if they are grown in Germany,” says Omniflora Managing Director Klaus Voss





With “Fresh” and the add-on To-Door service, Lufthansa Cargo can offer the Carefree Package for importers of perishable goods, like Inter in Hamburg

Inter, Germany

Flying freshness

Dragon fruit from Vietnam, tree tomatoes from Colombia, limes from Brazil – just a few hours after harvesting, they all are already in the cold store of the company Internationale Fruchtimport Gesellschaft Weichert – Inter for short – in Hamburg. From here, the goods are delivered to buyers in Germany and Scandinavia. The goods arrive via “Fresh” – developed by Lufthansa Cargo for customers whose goods are highly sensitive and have a limited shelf life. Around 700 to 800 tonnes of fruit and vegetables arrive for Inter at Frankfurt Airport every year, with the bulk being carried by Lufthansa Cargo. The importer relies on “Fresh” together with the To-Door add-on service. With this combination, Lufthansa Cargo offers a truly carefree package: in addition to transportation by air and the handling by trained personnel in Frankfurt, the service also includes all transfers by truck – all the way through to the Inter warehouse in Hamburg. Lufthansa Cargo also handles the entire paperwork, including customs clearance. The central hub for Inter is the Perishable Center Frankfurt. The floor space of 9,000 square meters accommodates 20 different monitored temperature zones in which the temperatures can be adjusted to between -24 and +24 degrees Celsius. Modern Perishable Centers such as the one at Frankfurt Airport are also available in Miami, Nairobi and Cairo.







Ensuring freshness – from takeoff to landing.

Fresh – Your freight. Your temperature. Your choice.

Perishable goods require careful handling. With **Fresh**, you can transport sensitive goods without any loss in quality thanks to fast connections, a temperature-controlled environment and a network that spans the entire globe.

Find out more at lufthansa-cargo.com/fresh

A high-angle, aerial photograph of a Lufthansa Cargo aircraft in flight. The aircraft is white with "Lufthansa Cargo" written in blue on the fuselage. The engine nacelle is visible in the foreground. Below the aircraft, a lush green landscape with a winding river is visible under a clear blue sky.

Lufthansa Cargo



Lufthansa Cargo
Networking the world.