Dear Dornier 228 friends and family,

Welcome to your spring edition of the LoveDornier228 magazine. Our community is built on a shared passion for this aircraft. We believe it is important to share stories about the lives impacted by you and the Dornier 228.

The Dornier 228 community is about sharing and caring – in good and in bad times. In this issue, our very special aircraft will take us from South America, across the North Pacific Ocean to Nepal, over the Arabian Sea to Africa, and back across the Mediterranean Sea to the North Sea near the Dutch coast. Every issue of LoveDornier228 brings us to places where people, animals and the environment are in great need, but most importantly, where very special people who face those challenges live. Your dedication to meeting those challenges creates a better world.

I continue to be personally honored and thankful to all contributors for sharing your experiences with our community.

Let us keep building our future through a community of collaborating, sharing and listening. If you have a story to share, please contact us. We would love to hear more about your experiences.

Yours,

Volker Wallrodt
Senior Vice President Business Jets, Do228 & Components

LoveDornier228 is now also available online.
Visit us at lovedornier228.com
Even in the summer, the North Sea does not get much warmer than sixteen degrees Celsius (60.8 ºF). Winter water temperatures can be as low as six degrees Celsius (42.8 ºF) and even colder at the surface. Human survival times at such frigid temperatures can be measured in minutes – especially if weather conditions are poor and the person in the water is not wearing a survival suit. This is what makes search and rescue (SAR) missions at sea so time-critical. The quicker somebody is located in the water, the sooner they can be picked up and the better their chances of survival. This is what makes search and rescue (SAR) missions at sea so time-critical. The quicker somebody is located in the water, the sooner they can be picked up and the better their chances of survival. The flexible design of the Dornier 228 makes it the ideal aircraft for the varied missions of the Netherlands Coastguard; however, it is especially well suited to the challenge of finding people at sea.

Eyes in the sky
One of the two Dornier 228 aircraft belonging to the Netherlands Coastguard was already airborne and three hours into an observation mission when the call came through that a kite surfer was missing. “We were flying in the north at the time,” recalls Haico, a Dornier captain with five years of service in the Netherlands Coastguard. “We were flying in the north at the time,” recalls Haico, a Dornier captain with five years of service in the Netherlands Coastguard. “The kite surfer had gone missing in the south, so we had to fly for around thirty minutes to get to the right place. We got there just as the report came in that he was safe.”

Designed and equipped for the mission
Had the missing kite surfer still been in the water, the Netherlands Coastguard Dornier 228 would have been his best chance of being found quickly. The aircraft is faster than a helicopter, so it takes less time to reach the search zone. It is equipped with a forward-looking infrared (FLIR) camera that is capable of detecting human body heat in poor light conditions. Four protruding observation bubble windows make it possible for the team onboard the aircraft to look directly down into the water, while high wings ensure unimpeded views to the side. Thanks to the volume and rectangular shape of the Dornier fuselage’s cross-section, the aircraft has space both for large operator console(s) and specialist equipment to support a range of SAR and routine missions. The ability of the aircraft to fly low and slow makes it especially effective for locating people in the water. “Detection is one of the primary tasks in search and rescue,” Haico explains. “However, we can also do air-commander operations. For
example, when there is a mass evacuation of a vessel such as a cruise ship, we can take a command role and coordinate all of the helicopters and rescue craft. We can also drop a seven-person life raft if there are people in the water and no vessel is nearby to rescue them.”

**On call 24/7 for search and rescue**

Netherlands Coastguard Dornier 228 crews usually do one four-hour patrol per day or two flights of three hours; however, they must also be ready to scramble if an emergency call comes in. The crews sleep at their base when they are on call, so they can take to the air quickly. Non-emergency missions can involve everything from fisheries surveillance and pollution control to drug enforcement and border patrol. “We fly the North Sea waters of the Dutch Exclusive Economic Zone (EEZ). Every day it is a different mission, but we are on call 24/7 for search and rescue,” Haico explains. “That is one of our biggest tasks.” Covering an area of 57,000 square kilometers that extends over 370 kilometers (200 nautical miles) beyond the coast of the Netherlands, the Dutch EEZ is actually larger than the country itself. Enforcing maritime law and keeping waters safe and pollution-free across such a vast area requires an aircraft that is both economical and capable of flying for long periods of time. The Dornier 228 fits the bill on both counts. “We normally fly with a crew of two pilots and two observers – plus all of the equipment,” Haico explains. The aircraft is fitted with two computer workstations in the back and carries everything it needs for its varied missions. “With a full crew of four on board and the equipment, we can fly for around five hours and fifteen minutes.”

**Cooperation on board and across borders**

Dornier pilots fly with two observers from a range of government agencies, including the Royal Dutch Navy, Customs or the Ministry of Transport. “The crew in the back is combined. One is a military police observer and the other an observer from a different government agency.”
ministry," Haico explains. Cooperation is central to the success of Coastguard missions, whether the mission is on board the aircraft, working with rescue vessels at sea or with ministries on the ground. The Dutch Coastguard also works closely with their counterparts in neighboring countries as well as with European agencies. “We do cooperate with international partners: for example, we fly over the part of the North Sea known as the German Bight. We also fly on a weekly basis above German seas in German airspace. We work with the UK once or twice a year monitoring flights in the UK and Norwegian oil fields as part of the Bonn Agreement.” This is a cooperation initiative between the EU and North Sea countries that aims to combat pollution in the North Sea. “We use the Dornier 228’s SLAR (Side Looking Airborne Radar) to check whether rigs are discharging anything into the sea,” Haico adds.

Humanitarian mission

The Dutch Coastguard also played a vital lifesaving role in the Mediterranean Sea at the height of the European migrant crisis of 2015-16, when thousands of desperate refugees from war-torn Syria, Iraq and a number of African nations took to ramshackle and unseaworthy craft to make the perilous sea crossing to Europe. As part of the Netherlands contribution to the EU FRONTEX European Border and Coastguard Agency, the Dutch government deployed a Coastguard Dornier 228 and its crew to Italy to patrol the Mediterranean. “We flew from [NATO airbase] Sigonella as well as the Italian islands of Santa Maria and Lampedusa,” Haico says. “Our task was to look for refugee boats in the water so the people on board could be picked up by rescue vessels before they got into difficulties. These missions are run and financed by the EU. It is important lifesaving work and very rewarding.”

Saving lives at sea a top priority

Back in the Netherlands, saving lives is the number one priority for the Dutch Coastguard. Even when the Dornier crew is in the middle of another mission – such as monitoring North Sea fisheries – they will drop everything to go to the aid of people in danger at sea. Such was the case with the example of the missing kite surfer who turned up safe and sound. “As it happens, we got a second call just fifteen minutes after the earlier search and rescue mission had been called off,” Haico says. Coincidentally, the victim was another kite surfer. “We spotted his equipment abandoned in the water, but there was no sign of the man himself. We coordinated rescue craft and directed them toward the equipment, before searching the waters for the missing person. We were still searching when the call came in that the missing person had swum back to shore and was safe.”

Even if some calls do turn out to be false alarms, as in this case, the Dutch Coastguard treats all search and rescue calls seriously. The North Sea has claimed countless lives over the centuries, so surely the best outcome of any search and rescue mission is to learn that a missing person is safe and well – regardless of whether they are pulled from the water by a rescue team, or they could swim to shore themselves.
The route less traveled – Discovering the Netherlands

From its wild North Sea coastline, to the cultural and architectural delights of its historic cities, the Netherlands – or Holland as it is often known – is a land of waterways, contrasts and surprises.
The Dutch have history to thank for tourists’ confusion about the name of their country. Officially called the Netherlands today, this low-lying kingdom in the northwest of Europe has had several monikers throughout its history – of which Holland has endured, both in the name of two of the nation’s twelve provinces, and as an unofficial national nickname. But names aside, it is a nation well worth visiting – whether for a city break or a longer vacation.

A nation of contrasts

Many visitors to the Netherlands never set foot outside the manifold charms of the nation’s capital Amsterdam. And with so many world-class museums and cultural attractions on offer there, it is not difficult to see why: Amsterdam is a city worthy of a travel guide in its own right. Yet, stray beyond the leafy canals of the Grachtengordel, which surrounds Amsterdam’s historic center, and you will discover a country filled with contrasts and variety. From the modern high-rise architecture and cosmopolitan vibe of Rotterdam to the picture postcard rural charm of Edam, the Netherlands offers something for all tastes and budgets.

Surprising cities

The excellent Dutch public transport system puts cities such as lively Utrecht, or The Hague – with its historic palaces and buildings – within easy reach of the capital. Both are delightful and well worth exploring; however, when it comes to exemplifying the cultural variety to be found in the Netherlands, Rotterdam and Maastricht are great places to start.

Rotterdam

The port city of Rotterdam is home to avant-garde architecture, innovative cuisine and sophisticated shops. With its skyscrapers and vibrant mix of cultures, it feels unlike any other city in the Netherlands. Many of Rotterdam’s historical buildings were destroyed in Second World War bombing raids, so the city that rose from the ashes is almost entirely modern. Indeed, it still continues to rise, as new buildings are constantly being added to the evolving skyline. This drive for innovation and modernity has made Rotterdam a hothouse for avant-garde Dutch design and architecture.

Divided by the Nieuwe Maas Shipping Canal, Rotterdam is very much a seafaring city. Signs of its maritime tradition are everywhere, and the extensive Maritime Museum – with its historic ships – should not be missed.

Maastricht

Perhaps best recognized among Europeans as the city where the Treaty for European Union was signed in 1991, Maastricht is one of the oldest cities in the Netherlands. It nestles amid the rolling pastures of the Limburg province, close to the borders with Germany and Belgium. Home to Roman ruins, historic churches and handsome merchant houses, this once fortified city has been shaped by its strategically important position on the Meuse River – and an often turbulent past.

Rotterdam is also a gastronome’s dream, offering the best in innovative Dutch cooking and world cuisines. From molecular gastronomy to the multicultural offerings of the city’s West Kruislaan district, the hardest aspect of any visit to Rotterdam is choosing among so many great places to eat.
Het Vrijthof has attracted visitors since medieval times, when pilgrims would flock to the grave of Saint Servatius. Nowadays, it is the pavement cafes and various cultural events that make this delightful square in the old city a must-see attraction – as well as the perfect place to linger over a coffee and take in the spectacular Romanesque Saint Servatius Basilica. Also not to be missed is a tour of the manmade caves of Saint Peter’s Mount, just outside the center of the city. Carved out of the limestone over centuries, these caverns were used to hide Rembrandt’s painting “The Night Watch” during the Second World War.

Rural idyll
With over 33,000 kilometers of dedicated signposted cycle routes at your disposal, one of the most rewarding ways of discovering the Dutch countryside is by bicycle. The absence of steep hills makes biking a breeze, while the short distances between villages, towns and cities means that you are never far away from somewhere to stop and rest. There are even travel companies that will organize your route for you, arranging accommodation and transporting your belongings between overnight stops. Travel in a tour group or set your own pace – the choice is yours.

Picture postcard Holland
The IJsselmeer Tour is one of the most charming of the long-distance cycling routes in the Netherlands. Start out in Amsterdam, before embarking on an 8-day journey of discovery that will transport you 400 kilometers, through polder scenery and nature reserves. Wind along the medieval streets of traditional Zuiderzee fishing villages like Volendam and Marken, or stop off for local cheese at the old town of Edam.

Big skies and sea views
For lovers of the sea, the Dutch Coastal Route takes in 570 kilometers of beautiful Dutch coastline. It runs from Sluis in the province of Zeeland to Nieuweschans in the north. Wind your way through the pleasant seaside resorts of the Zeeland Islands, past lighthouses, windswept dunes and onwards to the peaceful and natural landscapes of Noord-Holland and Groningen provinces. Stop for fresh seafood at a charming local restaurant, or relax with a drink at a beachside bar and watch the sun set over the sea – what better way to unwind after a day in the saddle?

Even if a full long-distance bike tour feels a little ambitious, there is no reason you still can’t enjoy the Dutch countryside on two wheels. You can always take one of the many so-called junction routes to shorten a longer tour, or simply load your bike on the train and ride the rails.

Discover the Netherlands for yourself
To find more information about these destinations, as well as other great Dutch vacation ideas, visit www.holland.com

www.holland-cycling.com has a wealth of useful information about biking in the Netherlands, while travel companies such as www.cycletours.com offer an array of organized Dutch biking vacations to suit all levels of experience (and fitness).
When an entire country gets together to help people in need, it not only raises much-needed funds, but the collective effort also proves that people can make a difference. Being part of an annual collaborative effort to change the world continues to foster pride in the people of Chile; it helps us create a better world.

BY SANTIAGO RIVAS AND FLORENCIA LUCERO HEGUY

Nationwide fundraising in Chile

It is hard to imagine a whole country mobilized in an event to raise funds for a charity each year. However, this is precisely what happens in Chile. For 27 straight hours once every year, Chilean banks, stores, schools and public institutions throw themselves into a life-changing event called the Teletón. The Teletón is the largest charitable event in the region, and the funds it raises go to the Institutos de Rehabilitación Infantil (IRI, Institutes for Rehabilitation of Children). The IRI specializes in assisting children and young people with motor disabilities, whether caused by muscular, neurological or bone disorders, and the donations help change the lives of these youngsters.

Held between November 30 and December 1, the 2018 Teletón marked 40 straight years of solidarity, which, thanks to the contributions of 200,000 families and donations from the business community, raised more than $55 million dollars – an accomplishment that greatly surpassed the expectations of all Chileans. This national festival of solidarity and charity encompassed the social, artistic and political spheres as all Chileans commit themselves and their talents to raise money for a noble cause during these 27 heartfelt hours.

To make this 27-hour event a success, the work begins long before the official opening of the event, as organizers start planning and executing the logistics to make sure everything runs smoothly. Fundraising events are held all over Chile, and each event needs to be televised, so it is essential that cameras and the media arrive at small towns throughout the country very quickly. This is a challenge due to Chile’s elongated shape and the huge distances from the north to the south of the country. The only way to traverse the difficult terrain quickly enough is by air, which requires a fast plane that can move teams and a large amount of sensitive equipment swiftly and safely. The aircraft must also be able to operate on small runways in remote areas and have good STOL performance. All these considerations make the Dornier 228 a perfect candidate.

In order to cover all of Chile in two days, two planes are needed. One plane flies north and the other flies south. Flight plans must follow the schedules of the television links, which are relayed via satellite. CorpFlite is the name of the company in charge of preparing the aircraft and flight plans. “We joined this campaign with a concrete contribution, which was to make the planes available at our own cost,” explained Kenneth Fell.

Teletón team visits Coyhaique rehabilitation center during a pre-transmission day tour on November 23, 2018. The team helped prepare and organize for the soon-to-commence fundraising activities.
operations manager at CorpFlite. The company offered the airplanes as a means to facilitate nationwide reportage, since the geography of Chile makes it difficult to have parallel or simultaneous coverage in all cities.

CorpFlite also prepares the aircraft with a combined configuration for passengers and cargo. Passenger room is limited to ten seats, with the rest of the space reserved for cargo. “The layout of the plane greatly benefits the client, because they want to leave with their cargo ready and want it handled with special care, as they are very delicate reporting instruments,” said Fell, adding that “this plane allows passengers to be on the same flight with their equipment, which creates great comfort, safety and reliability.”

Making the reportage possible

To achieve the challenge posed by the Teletón, pilots and television crews had to efficiently fly in and out of places with difficult terrain, negotiating short runways and daunting weather conditions. One of the most interesting of these places is Calama, which is six thousand feet high and has adverse weather, such as changing winds and very low temperatures. And if that were not challenging enough, they arrived at Calama at 5:00 in the morning. “We make sure that the mechanic who travels with us is well fed and dressed appropriately for the weather, so that he is 100 percent ready to support the ground operations on site,” said Germán Ribba, CEO of CorpFlite. Other challenging operations are Punta Arenas and Porvenir, where weather conditions are at their most extreme, with strong winds, snow, ice and rain. Ribba adds that “it’s interesting to see the reporters in action. There is a very happy atmosphere and a great team spirit, and we have food on board and some games and cards to keep people entertained.” He also says that “it’s an emotional experience, because ultimately this helps people with different needs that need support.”

Chilean children celebrating solidarity

While the Teletón activities are taking place all over Chile, people can donate in person as they participate, or they can watch events live on television and call in their donations. One great example of a community event occurs on Chiloé, an island paradise in southern Chile. More than one hundred students from different schools on the island held solidarity activities to launch the 2018 Teletón. In Castro, one of the principal towns in the archipelago, the sports-mad inhabitants held a Zumbathon in the Plaza de Armas. A Zumbathon is a sports dance contest based on the Zumba exercise fitness program, which is popular around the globe. Sebastián Cardenas, principal of the ‘Los Ciruelillos de Coyhaique’ school, said that “our wonderful schools are responsible for organizing this activity, which I have the privilege of coordinating. All the resources that we can collect in the stands during the activities will go to the benefit of the Teletón.” The community also joined in and ran stands where people could have their hair done, enjoy a manicure or massage, and purchase Christmas crafts and food. In addition, locals are proud to provide services that raise money. During the event the children of all the Castro schools met in the community center to do what they believe is one of the important things in life, that is: “to be together, to enjoy activities together that have a positive impact on the community,” said Cardenas.

The people the Teletón helps

Manuel Sandoval has a psychomotor disability caused by prenatal asphyxiation. He overcame a multitude of obstacles and today he says: “I’m 100% happy, I do not lack anything. Thanks to the Teletón, I have achieved my autonomy and my independence.” Manuel entered a rehabilitation center in Antofagasta in 1981, going to kinesiology every morning, and went from there to kindergarten. His sister taught him to read and write and, years later, he was able to attend and finish primary and secondary school. After this he achieved his greatest goal: to attend university. “I studied journalism at the Catholic University of the North,” says Manuel.
“What helped me most was the sense of pride I gained at university.” Afterwards it was difficult to find work due to the ignorance of people about motor disabilities. With perseverance, enthusiasm and a love for life, he landed his first job as editor of social networks for a television program. “This brought me an income and more economic independence,” he says proudly. “With my savings and a loan, I was able to buy a car.”

During a period when he did not have a job, he worked with his father as a taxi driver. He had a number of clients who chose him ahead of other service providers. This was how he established a reputation, and finally a company gave him a permanent job. “I felt intimidated because the work was more corporate in nature. Sometimes fear contaminates your mind, but I had the wisdom to trust myself,” he says, adding that “the Teletón taught me to believe in myself.”

Reaching beyond Chile’s borders
Chile’s example inspired other countries in the region, who now have their own Teletóns and are part of the International Teletón Organization (ORITEL). Currently, ORITEL consists of thirteen countries: Chile, Mexico, Colombia, Costa Rica, El Salvador, Guatemala, Honduras, Paraguay, Peru, Uruguay, Nicaragua, USA and Puerto Rico, making it one of the largest voluntary aid associations in the world. Collectively, they affect the lives of over 400 million people.

Since its foundation, ORITEL has carried out multiple initiatives, such as continental congresses, conventions on cerebral palsy, the promotion of preventive programs and support management for fundraising, among other projects. The organizations that belong to ORITEL provide rehabilitation services in almost 90 centers throughout the region, providing medical support to thousands of people with disabilities who have limited resources.

Uniting Chile
It is an amazing feat that Chile manages to unite all media, artists, companies, schools and social organizations on a specific date and with a common goal. Assisting disabled children in their rehabilitation is just one aspect of the organization’s success; another is the amazing cultural change taking place in Chile, where people are developing awareness and knowledge about people with disabilities. Once a year, they stand together to fight for the dignity and rights of those with disabilities, improving the chances of people like Manuel Sandoval of gaining economic autonomy.

The Teletón is a symbol for a country that prides itself on its willingness to unite and strive to create a better world for people with disabilities.

The Teletón in numbers:
Currently the Teletón institutes provide aid to 97% of the child and adolescent population with motor disabilities in Chile. Every year the IRI receives more than 3,000 new patients. Since the institutes were set up, they have provided treatment in more than 729,000 therapeutic cases.
On top of the world

“...you have to fly into Lukla and your journey starts from there.”

Managing Director of SITA, Rajendra Singh
It is 7:15 in the morning, and 14 excited passengers are sitting in the Kathmandu airport taxi waiting room. They should have flown out at 6:45 a.m., and the anxiety levels are slowly rising. An early start is important in order to set off on the two-week trek to Mount Everest base camp. An announcement comes over the speaker, “Flight YT11 is late due to high winds, rain, and cloud cover causing changing visibility.” The flight from Kathmandu to Lukla takes just 40 minutes. However, the weather can change very quickly and can also be dramatically different in the two locations. Flight crews will only be cleared for flight if both airports have good visibility and low wind. Finally, the weather clears up.

At the Tribhuvan International Airport in Kathmandu, the bus brings out the 14 mountaineers anxiously clinging to their gear. Their packs usually contain cameras, down expedition suits, backpacks with sleeping bags attached, a closed-cell foam pad, thermal cups, spoons, and sometimes ice picks. Once they land in Lukla, the passengers have an arduous 10- to 14-day hike to Everest Base Camp at 5,380 meters.

Lukla is the gateway to Mount Everest and is home to the Tenzing-Hillary Airport (also known as the Lukla Airport), which is notorious for having one of the most dangerous runways in the world. In 2018, passenger Alyson Long wrote:

“It was a ride of a lifetime, a dream come true...it was also pretty scary. We bumped up and down and blew from side to side. I spent most of my time praying or in the brace position. In the final minutes of the flight, it seemed the pilot was about to fly into a brown, craggy mountain as eagles flew just below us. At the last moment he took a right turn, and Lukla’s tiny airport came into view. The landing was fast and bumpy but safe.”

If your destination is Mount Everest, be prepared for one of the most beautiful landings you will ever experience. The Tenzing-Hillary Airport was named after Kiwi mountaineer Sir Edmund Hillary and Sherpa mountaineer Tenzing Norgay, who were the first to reach the summit of Mount Everest on May 29, 1953. The airport runway is 527 meters long by 30 meters wide; it sits on the side of a mountain at 2,845 meters above sea level with an 11.7% gradient. At one end of the single runway, there is a 600-meter drop, and at the other end, a mountain wall with a narrow path leading to a Buddhist shrine. Most tourists find landings and takeoffs here terrifying and exhilarating.

Landing in Lukla
Lukla is officially a “Short Takeoff and Landing Airport” (STOLport) which means only aircraft with STOL capability can land in Lukla. Managing Director of SITA Air, Rajendra Singh explains that, when landing in Lukla, an aircraft can “come to a halt without even applying the brakes thanks to the gradient.” The slope also assists in fast takeoffs as the planes descend 200 feet down a gradient before becoming airborne. The airport has only one line of approach, and the runway is much shorter than normal, so second chances and late “go-arounds” are not possible. “The best aircraft for our airport is the high-speed Dornier 228 because it can come to a halt within 300 to 350 meters as it lands at a speed between 80 and 90 knots.” People often become anxious and very excited when they board the Dornier 228 for Lukla. When the aircraft lands nice and smoothly, everyone claps because they have all heard the rumors and know it is described as the most dangerous airport in the world.
Weather challenges

Operating at high altitude in mountainous terrain is challenging for most aircraft crews as they have to calculate weight limitations with short takeoffs and landings while taking the current wind velocity into account. “Nepal is very unique because we have cold, hot and high conditions,” says Singh. During the summer, temperatures in Nepalgunj can reach more than 40°C (104°F), and a few minutes after takeoff, the temperature drops dramatically as the pilot reaches 10,000 feet.

Wind is another concern for air transport operations. At Lukla, aircraft can only take off if the tailwind is less than 10 knots. If the wind exceeds 10 knots, the operation is cancelled. “The Dornier 228 is probably the only aircraft that actually responds in a very stable manner in crosswinds. We stay within the limits, and we operate safely. The wind is usually below 10 knots, except at certain hours of the day or at certain periods of the year just before it snows,” explains Singh. After his visit, the famous air-to-air photographer Katsuhiko Tokunaga also said, “The most impressive thing is the strong wind. To aim your aircraft at the runway is quite a challenge. You can usually only fly in the morning as the wind becomes too strong in the afternoon.”

Building the runway

Before the advent of Lukla Airport in 1964, it took three weeks to reach Lukla on foot from Kathmandu. Lukla really needed an alternative to bring goods and food to the town of some 500 people, and so the Himalayan Trust Fund established by Edmund Hillary, along with Hillary himself, decided to build an airport. Hillary actually wanted to build Lukla Airport on flat farmland, but, understandably, local farmers wanted to keep this precious terrain for agriculture. In the mountains, however, the Sherpas were ready and willing to help, and so mountain land was bought from them. Hillary also arranged that the Sherpas would do the primary construction. Sherpas are native mountain dwellers in Nepal, and this work helped raise their standard of living. The original runway was made with dirt and sprinkled with crushed stone. It is said that Hillary asked the Sherpas to perform a foot-stomping dance to compact the runway more.

Later, in 2001, the dirt-and-rock runway was paved. The airport has no navigation equipment, which means pilots perform takeoffs and landings with visual contact only. To make your trip to Lukla a success, you need short-takeoff-and-landing (STOL) aircraft, experienced pilots and favorable weather. When the combination is right, your visit to Lukla may seem so easy that you then wonder why on earth people call Lukla the most dangerous airport in the world.

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Later, in 2001, the dirt-and-rock runway was paved. The airport has no navigation equipment, which means pilots perform takeoffs and landings with visual contact only. To make your trip to Lukla a success, you need short-takeoff-and-landing (STOL) aircraft, experienced pilots and favorable weather. When the combination is right, your visit to Lukla may seem so easy that you then wonder why on earth people call Lukla the most dangerous airport in the world.
Imagine you are stranded in your hometown. You live with constant electrical blackouts, clean drinking water is scarce, and slowly the supermarket is running out of food.
There are people in the world for whom this horror is a reality. In Syria, for example, according to the United Nations, at the beginning of 2017 about one million people were living in a state of siege. According to estimates of humanitarian organizations, hunger has killed at least as many people in the Syrian war as bombs have.

At the beginning of 2015, the Islamic State group besieged parts of Deir ez-Zor, Syria's northernmost city, which was fully controlled by Syrian government troops. At the time, Deir ez-Zor had about 100,000 citizens. A state of emergency quickly broke out. When there was food, it was only available at astronomical prices. The inhabitants took on debts or sold their belongings just to obtain the bare necessities to survive.

**Help from above**

Help finally came from the air: In February 2016, the World Food Programme (WFP) started to regularly drop food and relief supplies from the air over the besieged area of Deir ez-Zor, using an Ilyushin-76. WFP is the food aid arm of the United Nations humanitarian program. The relief flights took off from Marka Airport in Jordan and continued to bring aid until the siege ended in September 2017. During the siege WFP aircraft dropped 8,200 pallets with more than 6,500 tons of food and supplies over the course of 309 airdrop missions.

Airdrops are usually conducted by dropping 50 kg sacks from a height of around 300 meters. However, since the affected area in Syria was in the middle of a conflict zone, flights at this low altitude were not allowed, so as to avoid the high risk of ground-to-air attacks. Therefore, the aircraft had to use parachutes to drop the relief supplies, which weighed around one metric ton, from a height of more than five kilometers, at an airspeed of more than 270 kilometers per hour. This was quite a task as the target zone on the ground was only 1 by 1.8 kilometers, and the pilots have to be exact when dropping food and supplies.

**Difficult and costly operations**

Experienced personnel were needed both in the air and on the ground. In Deir ez-Zor, it took 9 staff to perform the airdrop operation and unload 21 tons of relief supplies carried by the Ilyushin-76. The crew consisted of two pilots, a technician, a radio operator and a flight navigator who was located one floor below the cockpit in the glass-covered ‘pulpit’ under the nose of the jet. On the ground two more technicians were needed for each jet. On site, a team set up the drop zone to receive the dropped cargo. This time the Syrian-Arab Red Crescent team was in charge of setting up the drop zone. They had to retrieve the dropped pallets, record them and move them to a warehouse in the city so that the relief goods could be distributed.

Airdrops are risky and expensive. Every single airdrop mission costs tens of thousands of dollars. Trucks or ships are the more efficient means of transporting aid; however, they can be more dangerous for aid workers and often require armed guards. Senior Regional Aviation Safety Officer, Samir Sajet, explains: “On the one hand, around 20 tons of cargo might not seem to be a large quantity as it is considered to be a large truck load, but on the other hand, this is enough to feed around 2,400 people for a month.”

Airdrop operations are indeed risky and costly, nevertheless they become the only and last resort when a region can no longer be reached by land or water due to conflict, post-conflict or disaster situations (natural or manmade). Airdrops are sometimes the only way to provide help to people who would otherwise starve and suffer the most awful privations.

**Zero-hunger WFP missions**

When airdrops are not necessary, and it is possible to land in the crisis areas, the ‘regular’ air transport of relief goods and personnel becomes extremely important. WFP often collaborates on missions to achieve their “zero-hunger” world goal. They work together with thousands of partners, including governments, private sector companies, UN agencies, international finance groups, academia, NGOs and other civil society groups. WFP also manages the United Nations Humanitarian Air Service (UNHAS). UNHAS offers passenger
and light cargo transport for the humanitarian community to and from areas of crisis and intervention. It is the only humanitarian air service that gives equal access to all humanitarian entities. The fleet is a mix of jets, turboprop aircraft and helicopters: Embraer 135 and 145, Bombardier Dash 8, Beechcraft 1900, let L-410 Turbojet, Dornier 228 and 328, Cessna 208 Caravan, IL-76, Mi-8, Bell 412 and 212 and the CRJ-200.

**Transporting the humanitarian community**

WFP is often required to land in remote regions where take-offs and landings occur on short, often unpaved runways. For this reason UNHAS utilizes a Dornier 228. The robust aircraft is ideal for these missions. In 2018, the UNHAS Dornier 228 provided valuable assistance in Somalia when the country was hit by extreme rainfall after years of drought. In response to the flood emergency, UNHAS augmented its fleet size with a Mi-8 helicopter and extended the contract of one of its Dornier 228 aircraft to ensure there was sufficient capacity for the humanitarian community to reach affected communities.

The Dornier 228 also provided valuable assistance in the fight against Ebola in the Congo. As part of the response to the virus outbreak in 2018, a Dornier 228 was stationed in the town of Kalemie on Lake Tanganyika to support humanitarian and medical aid efforts. The Dornier 228 has been used to assist in the fight against world hunger over and over again.

Samir Sajet also explained that “the United Nations World Food Programme (WFP) is the leading humanitarian organization saving lives and changing lives with a priority to end hunger, achieve food security, improve nutrition and to promote sustainable agriculture worldwide.” WFP assists more than 90 million people in about 83 countries each year, delivering food assistance in emergencies and working with communities to improve nutrition and build resilience.

Every day, WFP travels with 5,000 trucks, 20 ships and 92 aircraft to deliver food and non-food items to those most in need. And on average the WFP’s United Nations Humanitarian Air Service (UNHAS) transports more than 320,000 passengers to more than 280 regular destinations in 16 countries, performing 3,079 airdrops with a total of 80,640 tons of cargo.

Samir reports that “UNHAS humanitarian operations are very complex and depend heavily on risk-based approaches throughout operations, as flights are highly exposed to various safety challenges such as near air misses, hostile security situations, loss of control, controlled flight into terrain and adverse weather … hence we apply global standards and recommended practices in all of our operations and closely monitor the safety of our flights.” Samir explains that these procedures are important in order to “ensure the safety of the humanitarian flights when servicing the humanitarian community.”

How do you drop food from 17,000 feet into a conflict zone? Watch the WFP video!
Mission-driven information fusion in Dornier 228 cockpit

When the Dornier 228 was engineered it was ahead of its time. Its revolutionary wing design provided the 19-seat market with brand new capabilities, which are unmatched even today. Huge strides in technological development have occurred since then in the areas of aviation avionics, sensors, communication, data processing and information management. In 2009, when RUAG reintroduced the Dornier 228 to the market, the company picked up on these trends and designed a revolutionary cockpit that was tailored to complex missions – once again, ahead of its time.
Maritime patrolling operations over the North Sea can be among the harshest imaginable, depending upon weather conditions. Patrolling as low as 300 feet above sea level can expose an aircraft to the threat of a bird strike, gray and gloomy twilight, bad visibility, sleet, limited radio navigational aids, and strong winds and gusts; all this makes the North Sea a rough and demanding environment for airborne operations.

Patrolling the North Sea with Dornier 228 aircraft has a long tradition for several reasons: it has a high wing structure that allows all crew members to look out and down; it is very fuel efficient and ideal for long distance missions; and the cabin size accommodates large crews, operator stations and instruments. The Dornier 228 also has a proven track record as a stable, large crews, operator stations and instruments. The Dornier 228 also has a proven track record as a stable, large crews, operator stations and instruments. The Dornier 228 also has a proven track record as a stable platform in adverse weather conditions.

That thing they do
Whatever the environmental conditions or the time of day or night demand, they still have to do their duty. Now, who are they and what is the thing they do? They are, for example, the Dutch Coastguard or the German Navy, who both use their Dornier 228s to help vessels and people in distress, prevent would-be polluters from abusing the environment, and reduce smuggling and counter illegal fishing. And they do this whenever and wherever required. On every mission, they are a team of pilots, operators, observers and a mission commander. As a crew they use visual cues, electronic sensors and navigation and communication equipment to achieve mission success. Every crew member is responsible for their individual task which contributes to the overall mission during every maritime patrol operation over the North Sea.

New requirements for information management in maritime patrolling operations over North Sea
This is where crucial information fusion comes into play. An entire mission is only successful if every crew member on board has the same recognized air and sea picture. Information fusion makes this possible by integrating the data generated by each mission task, as measured by the relevant instruments, to produce more consistent, accurate and useful information that creates the same recognized air and sea picture for each and every crew member. And as cockpit technologies have advanced over the years, coastguard and naval organizations have also wanted to benefit from this capability. Together with its customers, RUAG developed a new cockpit for their specialized mission needs. One of the key requirements was the ability to share data between the cockpit, the mission operators and the mission commander. The new solution needed to comply with military standards, to significantly increase self-navigation capabilities without the need for ground-based or airborne navigational aids, and to be able to fly in a degraded visual environment (DVE).

A new information fusion concept for Dornier 228 platform
There are many well-known companies providing glass cockpit solutions. The term glass cockpit refers to a cockpit which uses a small number of digital screens that fuse information as opposed to a cockpit with numerous analog instruments. One solutions provider of information fusion, Universal Avionics in Tucson, Arizona, was approached by RUAG and its customers. Universal’s data and information fusion cockpit solution has some particularly important elements that make it pretty much ideal for the tough requirements of North Sea maritime patrolling operations. Its primary systems, particularly the Flight Management System (FMS) and multi-functional displays (MFDs), provide the right mix of capabilities for the North Sea patrolling operations of institutions such as the Dutch Coastguard or the German Navy. The cockpit capabilities are further enhanced with engine monitoring capabilities without the need for ground-based or airborne navigational aids, and to be able to fly in a degraded visual environment (DVE).

Modernizing the Dornier 228
The decision to integrate a new information fusion cockpit into the Dornier 228 aircraft contributed heavily to the Dornier 228 modernization package, which cites more than 300 modifications.

One of the most important outcomes of this modernization program is improved situational awareness for the entire mission crew. All relevant information is fused into the primary flight displays, which are networked with the cabin, thereby simultaneously informing the mission operators as well as the mission commander, while reducing the pilots’ workload. “When on mission, the maritime patrol aircraft crews see all the relevant information at a particular moment of the mission, be this navigation and route information, weather data or other traffic – and all is tailored to each crew member’s needs and all is shown on one display if required,” explains Steffen Gemsa, Chief Test Pilot at the RUAG MRO International site in Oberpfaffenhofen, Germany, which is home to the Dornier 228.

The new cockpit also has additional benefits. Gemsa explains: “The Dornier 228 information fusion cockpit provides full Performance Based Navigation (PBN)
Where’s Katsu?

Our beloved air-to-air photographer is still making his way around and around the world! Have you spotted him at any shows? Make sure to take a selfie or snapshot with him and send it our way!

So far this year his schedule looks something like this:

**The answer is upside down on the lower right-hand side of the picture**

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**FLIGHT BITS**

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Help us save more

"We saved Aimi, Annie and Commando thanks to the contributors at LoveDornier228, the Dornier 228 community and RUAG MRO International!"  
Annie Olivecrona, African Apes Foundation.

Chimpanzees the Dornier 228 Community has helped save:
Juma | Congo | Linton | Aimi | Annie | Commando | Victoria | John | Miriam

Left: Warden Mr. Jonathan, Director General of Wildlife in South Sudan; Kuol Mayen Mading, Advisor to the Minister of Wildlife; Advisor Alfred Akwoch; Annie Olivecrona, Director of the African Apes Foundation; and John from Wildlife Security. They stand in front of the plane that brought Miriam and John from Yambio.
Right: Miniam waiting to be rescued.

Tell us your story and share your pictures!

Living & loving the Dornier 228?
Memories are fascinating and close to our heart. Do you have a Dornier 228 experience that made your heart beat a little faster or relax a little longer? Have you flown or landed where perhaps no one else has? Did you perform an interesting mission or care for someone or something that moved your heart? Does your Dornier 228 have a story to tell itself, an interesting history, an interesting modification, or do you have a favourite picture? LoveDornier228 would love to tell your tale. Please share your special experiences with us now.

Rachel Gisiger (Publisher), rachel.gisiger@ruag.com

Please donate to the African Apes Foundation and help Annie bring more chimpanzees to safety!  
http://africanapes.com
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IBAN number: SE6250000000052931010464
BIC/SWIFT Code: ESSESESS; Organization number: 802477-3429
Rachel Gisiger – Concept creation and publishing
Creating new and exciting methods for connecting to customers and engaging in meaningful dialogue with them motivates Rachel Gisiger. In her strategic leadership position at RUAG MRO International, she continues to follow this passion, building upon her professional marketing degrees, and is a key driving force for marketing and communications across the company. Rachel serves in a pivotal position dedicated to servicing the international Dornier 228 community and is particularly proud of creating and publishing this magazine on their behalf.

Christine Anne Berger – Editor in Chief, Writer
“Telling someone’s story requires understanding the narrative from multiple perspectives.” Christine Anne has a Masters of Fine Arts from UTSA and a Masters of Education from UWS. Christine tells stories using a variety of communication techniques from visual images to the written word. When she isn’t directing and consulting, she spends time in her artist studio and garden or goes hiking, while pondering new approaches, new questions and new challenges.

Santiago Rivas – Writer
Santiago resides in Buenos Aires, Argentina, with his two sons and his daughter. He studied journalism at the Argentine Catholic University and has since then been published all around the world. Santiago specializes in Latin American aviation and defense matters. His genre of work includes both historical and contemporary projects. Santiago also manages one of the main defense and aviation archives in Argentina, providing material for more than 40 international magazines.

Matthew Beattie – Writer
Originally from Leeds, England, Matthew Beattie is a graduate of the Schule für Angewandte Linguistik in Zurich, where he studied journalism and languages. His articles have been published in the UK, the U.S.A. and in Europe. Matthew has spent much of his career in Switzerland, Germany and Luxembourg. He now lives in the Yorkshire Dales, where he works as a freelance journalist and translator. When he isn’t writing or traveling, he enjoys cooking, hiking and choral singing.

Hendrik Thielemann – Writer
Hendrik Theilemann studied communications and worked as a journalist for several years before he decided to move to the other side of the desk and became a corporate communications manager. From 2001 until 2016 he worked in the aerospace industry. At the beginning of 2017, he founded the Zurich-based communication agency E2C (www.e2c.ch). E2C focuses on corporate content and outsourced communication management primarily in the sector of aerospace and engineering.

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To most people, the sky is the limit. To those who love aviation, the sky is home.

JERRY CRAWFORD