# **Connecting Sustainably**

WELCOME

HOME ?

Brief Report 2013





### Dear Readers,

2013 was a challenging year for the air transport industry in Germany. The weakness of economic development in Europe enhance our attractiveness as an employer, strengthen job and the increasingly tough competition raised the pressure on prices and costs being experienced by the airlines and airports. Political framework conditions like the German air travel tax, emissions trading, restriction of operating times, etc. exert an additional negative impact on Germany as an aviation center. Fraport has been successful in mastering these challenges. Our achievements included once again increasing our passenger and airfreight figures and further improving the quality of our services, particularly at Frankfurt of Hesse, and the "E-PORT AN" Rhine-Main model region Airport.

In this challenging market environment, we remain faithful to our aspiration of connecting sustainably. There are good reasons for this concept. Responding appropriately to social and environmental issues is absolutely essential for the future viability of the Fraport Group and leadership goals in the sector. noise exposure for residents around the airport. Out of 19

Furthermore, we all have to be ready to embrace change. We need to meet the expanding competition on the international market with competitive guality and attractive prices. We therefore rigorously scrutinize our business processes to make them even more efficient wherever this is required. Our commitment is to take our employees with us on this journey and we are privileged to have a tradition of being able to rely on their expertise, dedication and their loyalty.

The success of our endeavor depends on their being able to join forces with us and drive forward the necessary changes with motivation, flexibility and their individual skill sets. With this aim in mind, we focus on human resource issues. In

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Peter Schmitz Executive Director Operations

Dr. Stefan Schulte **Chief Executive Office** 

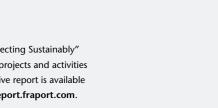
## **Contents**

This Brief Report entitled "Connecting Sustainably" outlines some of the measures, projects and activities of Fraport AG. The comprehensive report is available online at www.sustainability-report.fraport.com.

You can access the Sustainability Report by scanning this QR code with your smartphone.



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particular, we are concentrating on those issues which security and career development, and promote diversity.

Climate protection forms an additional focus of our sustainability strategy. The reduction of our CO<sub>2</sub> emissions is being promoted by a number of measures including the introduction of a monitoring system for CO<sub>2</sub> emissions and energy consumption, and gradually transferring to an electric vehicle fleet. Our joint project with Lufthansa, the state encompasses a mix of activities which are intended to foster electromobility at Frankfurt Airport. The Federal Government conferred an achievement award on this project in 2013.

We are also ready to make changes on the issue of noise abatement. We are working continuously to minimize the measures for active noise abatement, which were adopted by the "Alliance for Noise Abatement", most have undergone pilot trials or indeed have already been implemented. We also support the need for transparency by providing the latest news and information on airport operations and air traffic on our new interactive airport noise map on the Internet. We are in fact in an international leader in the field of noise abatement initiatives.

You can find out about selected sustainability services provided by the Fraport Group during 2013 in this report - and we hope you find reading about them both informative and enjoyable.

Anke Giesen

Executive Directo Ground Handling

1. Riller

Michael Mülle Executive Directo Labor Relations

Connecting Sustainably – Brief Report 2013

## Profile

Our business activities are represented by four segments: Aviation, Retail & Real Estate, Ground Handling and External Activities & Services.

### Aviation

The Aviation segment incorporates the strategic business units "Airside and Terminal Management, Corporate Safety and Security" and "Airport Security Management" at the Frankfurt site.

### **Retail & Real Estate**

The strategic business unit "Retail and Properties", which focuses on retail activities, parking facility management and the rental and marketing of real estate at Frankfurt Airport, forms the Retail & Real Estate segment.

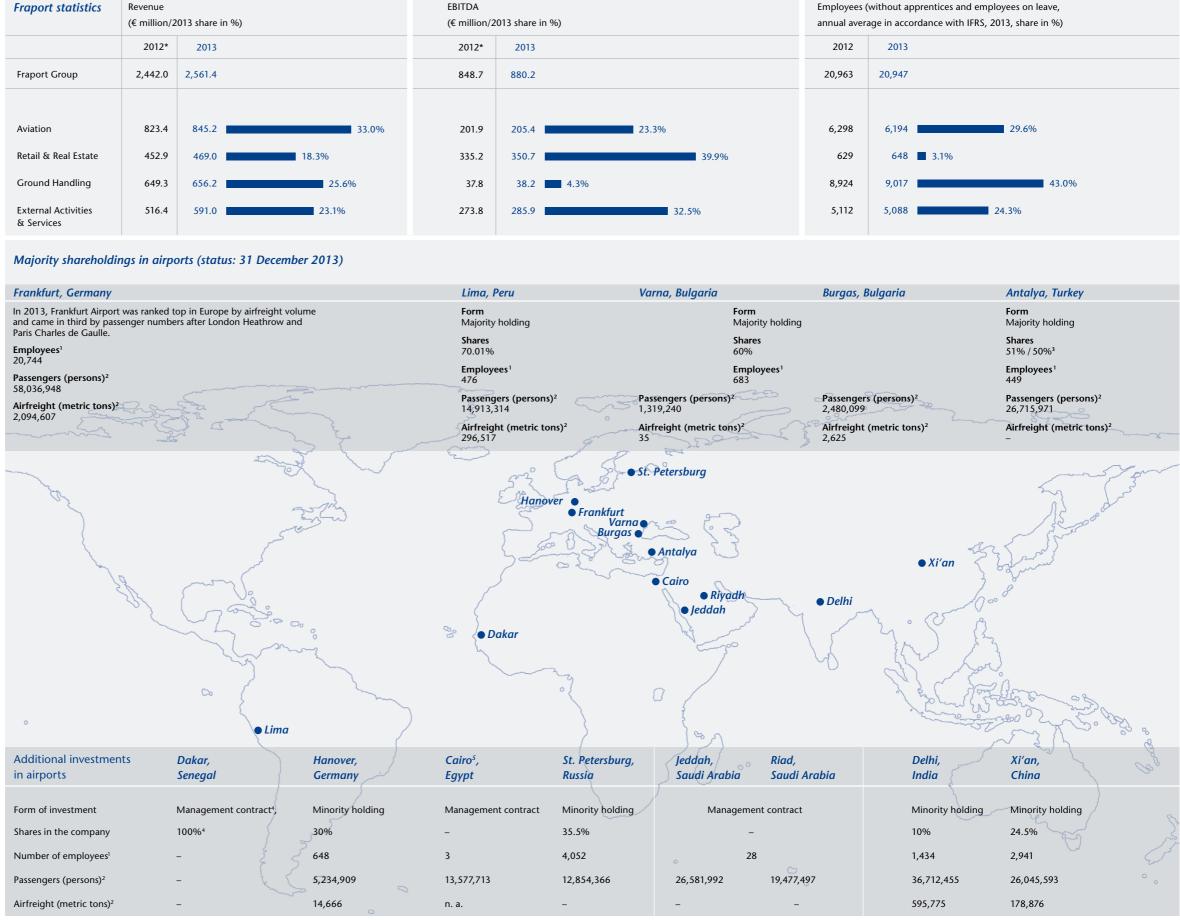
### Ground Handling

The Ground Handling segment comprises the strategic business unit "Ground Services" and the Group companies involved in these activities at the Frankfurt site.

### **External Activities & Services**

The External Activities & Services segment includes the central unit "Global Investments and Management", which is essentially responsible for airport services and airport management in the Group companies that are not integrated in the business processes at the Frankfurt site, and the service units "Facility Management", "Information and Telecommunication" and "Corporate Infrastructure Management" including the associated Group companies.

Fraport statistics	Revenue (€ million/2013 share in %)			EBITDA (€ million/2013 share in %)					Er ar
	2012*	2013		2012*	2013				
Fraport Group	2,442.0	2,561.4		848.7	880.2				:
Aviation	823.4	845.2	33.0%	201.9	205.4		23.3%		
Retail & Real Estate	452.9	469.0	18.3%	335.2	350.7			39.9%	
Ground Handling	649.3	656.2	25.6%	37.8	38.2	4.3%			
External Activities & Services	516.4	591.0	23.1%	273.8	285.9		32.	5%	



Values adjusted to take account of the retroactive first-time application of IAS 19R. Employees incl. temporary staff, apprentices and employees on leave on 31 December in accordance with

in accordance with Airports Council International (ACI)

Proportionate consolidation, 51% voting rights and 50% equity share.

Since July 2013, Fraport has held a 100% shareholding in the operating company for the new airport in The nine-year management contract held by Fraport for Cairo Airport International (CAI) was completed

Dakar currently under construction. on January 31, 2014.

the Global Reporting Initiative (GRI)



# **Our benchmark:** The satisfaction of our customers

As an airport operator, we have to meet the aspirations of our customers every day – and these are quite varied. The most important priority for passengers is to have well-designed terminals where you can easily find your way around. They want walking distances to be short and they don't like waiting around for a long time – for example at security checkpoints. Opportunities to relax and do some shopping are also welcome.



You can access the comprehensive section "Customers" in the online Sustainability Report by scanning this QR code with your smartphone. sustainability-report.fraport. com/customers

and in the terminals. Smooth-running flight operations have to be guaranteed at all times, be it early in the morning or late at night, as well as in winter. The fast processing of all documents and security measures as well as short pathways are absolutely essential for our customers in the airfreight business, such as transport companies and freight forwarders. On the other hand, people running shops and restaurants in the passenger terminals expect route planning that gives passengers easy access to their product ranges, and they also want a modern infrastructure. Keeping pace with global competition entails meeting these aspirations day in and day out. Regular customer surveys help us to assess our

Airlines rely on efficient, fast processes on the ground status. We find out about the areas we are good at and get feedback on where we can make improvements. We carefully analyze the results of the surveys and use this feedback as a platform for continuously developing our range of services.

### Modernization of the terminals

One result arising from this feedback is our "Great to have you here!" service initiative. Since the initiative was launched in early 2010, we have enhanced the passenger experience by implementing a wide range of different measures. One example is the online service "Create Your Stay", which allows

passengers to put together an individual itinerary for a stopover lasting several hours at Frankfurt Airport. Installing new information kiosks at the terminal is another innovation that we launched in 2012. A total of 90 information kiosks are now available across the terminals, making it even easier for customers to find their way around. We have catered for the interests of children by setting up two new play areas to complement the five areas already in existence. We are continuously developing the retail business by creating new floor space and modernizing existing areas. With its spacious concept, the new Pier A-Plus sets new standards in terminal construction, thereby improving the travel experience for our passengers. Ultimately, this also benefits shop operators.

### Efficient processes on the apron

Airlines are not earning any money while their planes are on the ground and this makes that time extremely expensive. They rely on efficient processes in handling baggage, airfreight and passengers. Frankfurt Airport already ranks as one of the "fastest" major airports in the world measured by transit time. Nevertheless, we have taken steps to further improve our services to the airline companies. For example, the functions of the Airport Duty Officer and Airside

ground services.

### Location benefits from excellent transport links

Our CargoCity enables us to offer customers from the airfreight industry premises located close to the apron, short pathways, and fast, professional turnover for all types of freight. More than 500 companies based at Frankfurt Airport also benefit from the airport's central position and the outstanding network with other modes of transport, such as road, rail and the waterways provided by the Rhine and Main rivers. We are currently expanding CargoCity South with new office and hangar areas.

Duty Manager have been merged so that station managers now have one direct contact point for all issues relating to apron operations. Furthermore, we also provide our members of staff in ground services with appropriate specialist terminology in English so that they are able to communicate with airline staff. We also offer cultural training to help employees engage appropriately with their international colleagues. Our objective is to retain the high level of handling and service quality in Ground Handling. We are therefore committed to lobbying the government against the further deregulation of ground services currently being planned by the EU Commission. This would impact negatively on the quality of

### Frankfurt Airport 2013



Destinationen 387

Minimum connecting time 45 min.



Punctuality rate 82%

Baggage Performance Index\* 2 \* Misdirected baggage items per 1,000 baggage items

### **Operational 24/7**



You can use this code to obtain more information on product auality and customer satisfaction in the Online Sustainability Report using a smart phone. sustainability-report. fraport.com/customers/ product-quality-andcustomer-satisfaction

The operation of a major airport is a complex process where a large number of very different processes come together like the cogs in a clockwork mechanism. Unusual events like the sudden onset of winter or a volcanic eruption can bring operations at an airport to a complete standstill. Regulations like night-time flight bans or new government directives for passenger handling are continually putting our operational skills to the test. If we are to guarantee smooth-running operations, we need to be in a position to respond flexibly to unpredictable events. We have lots of levers that we can pull in response to events - but ultimately the key factor is professional employees who know how to use our complex "tool kit".

The Terminal Duty Managers have a particularly challenging job on this front. As contacts for passengers, airlines and shop operators, they ensure that negative impacts experienced by these airport users from any adverse events are kept to a minimum. For example, if passengers are stranded at the airport because of bad weather,

the Terminal Duty Managers will make emergency beds and food available so that they can be as comfortable as possible during their unexpected stay at the airport. Terminal Duty Managers are also the first point of contact for the fire service, police, federal police and customs officers. "Every day at the airport is different. Whatever happens, all the threads end up with us," is how Terminal Duty Manager Jürgen Werner describes his job. He and his eight colleagues work shifts at the terminal facilities covering 24 hours a day and seven days a week.

They also have a position in the "Integrated Operations Centre", which is made up of employees from different departments. Terminal operations are monitored and managed from this central hub. As many as three Duty Terminal Managers work here during busy traffic periods. They make sure that all the systems are running smoothly and keep an eye on passenger flows. If necessary, they can intervene and take action to deal with any adverse events that occur.



### Passenger satisfaction continues to be high

In 2010, we had already defined the objective of raising passenger satisfaction - determined by standardized surveys to 80 percent by 2015. Although we already achieved this value in 2012, maintaining the score is not possible without undertaking further improvements, also taking into account steadily increasing passenger numbers. We therefore regard it as an achievement that the rating attained in 2012 was sustained in 2013.



# "I can identify people looking for assistance from a long way off."

What are your main functions as a service adviser at the terminals?

As one of around 70 service advisers, I provide support for the Terminal Duty Management. We look after passengers who are spending time at Frankfurt after a long flight. Airport. I can identify people looking for assistance from a long way off by observing their behavior and I then go and talk to them. Most of them are trying to find their gate. If my explanations are not enough, I sometimes accompany them and take them directly to where they need to go.

### What skills do you need for this job?

If you are going to work at an international airport like Frankfurt, it is important to master several languages. There's no question that English is

absolutely indispensable. My background means that I also speak French and Creole. A good knowledge of human nature is also useful since it enables me to distinguish between a passenger who needs assistance and a passenger who is simply exhausted

For me personally, it's important to get into a good mood at the beginning of my working day. On the way to the airport, I listen to my favorite music while I am driving and I also sing along very loudly. Later on, I still have the tunes in my head when I'm doing my work - that automatically puts a smile on my face. I have found that most people like to return this smile.

### You seem to have a knack of putting people in a good mood – is that also part of your "tool kit"?



Interview with Maurice Tirant service adviser



# Executive Board.

Furthermore, we also promote familiarity with religious and cultural customs among our employees and at the same time express our respect for these traditions. In June 2013, we therefore took part in a number of events on the first German Diversity Day including projects related to the issue of "Religion and Culture at Frankfurt Airport".

# Structuring change sustainably

Burgeoning requirements in a dynamic market environment and an aging workforce – these are the key challenges

for our human-resources management.



You can access the comprehensive section "Employees" in the online Sustainability Report by scanning this QR code with your smartphone. sustainability-report.fraport. com/employees

The average age of the people working in our Group is approximately 42 years. At Fraport's parent company the average age is indeed around 44 years – and the trend is upward. This development corresponds with the demographic change, which is accentuated in our company by the low level of employee turnover - in itself of course a very positive feature. At the same time, Fraport has to adjust to a job market characterized by increasingly tough competition for qualified specialist staff. Moreover, German companies in the air traffic sector are now seeing increasing international competition and are therefore experiencing rising competitive and cost pressures.

In view of these developments, we are therefore gradually bringing about change at Fraport in order working in older teams, while older employees will

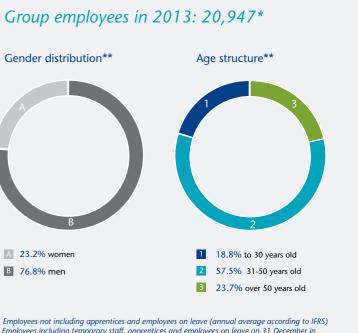
to secure jobs in the company and their high guality over the long term. One focus is on proactive occupational safety and healthcare management. Maintaining the physical and mental work ability of employees is essential for their motivation and commitment, and facilitates active Results Management, because days of absence cost the company money.

Another building block of human resource management is the development of our advanced-training package. This is also implemented with the focus on demographic issues. In the future, the awareness of our managers will therefore be raised specifically in relation to particular issues associated with

be introduced to new approaches to the routine requirements of the job on a day-to-day basis.

Our appeal as an employer is also enhanced in the competition for specialist and managerial staff by the fact that we provide our employees with career development perspectives across the Group. We also pay appropriate remuneration and offer a wide range of options for further education. To complete our employer profile in this respect, we offer flexible working-time models within the framework of operational possibilities and various daycare packages for children, which makes it easy for our employees to get the work-life balance right.

A further area of action is the strategic promotion of the diversity of our employees. Teams based on diversity invariably take a more flexible and creative approach. And for a company like Fraport with its international operations, social and cultural heterogeneity among the employees actually provides a direct benefit because this places us in a significantly better position to meet a wide range of different customer requirements. We made the strategic importance of diversity a priority in 2013



\*\* Employees including temporary staff, apprentices and employees on leave on 31 December in accordance with the Global Reporting Initiative (GRI)

by establishing an executive position for the management of diversity and equality at the level of the

We have also developed a number of initiatives in order to get closer to our target of increasing the proportion of female managers. Various human-resource development measures have been directed towards this goal, for example mentoring programs and dedicated seminars for female specialist staff and managers. We have created a key platform for this development by recruiting a high proportion of women to our trainee program and to high-level apprenticeship courses. In 2013, the women's network "Connect" was launched for women who have been employed as trainee managers and managers.

## Health promotion and maintenance



You can use this code to obtain more information on healthcare management in the Online Sustainability Report using a smart phone. sustainability-report.fraport. com/employees/employmenttrend/#health-promotion Guaranteeing streamlined processes in airport operations is sometimes associated with high demands on employees at Fraport. Around 159,000 passengers and 75,000 items of baggage are handled at Frankfurt Airport every day. This involves a high level of physical exertion and competimes considerable stress for our employees

sometimes considerable stress for our employees, for example when they are transporting baggage. Employees also have to work different shifts, and the age profile of our workforce is continually shifting upward.

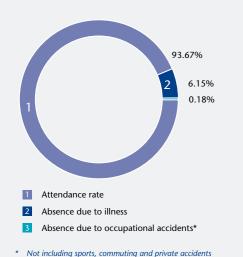
We are working on structuring working processes in such a way as to ensure that these burdens are reduced as much as possible through our health management and in the course of prevention work in occupational health and safety. Some examples of progress on this front are the installation of advanced lifting technology in baggage handling and ergonomic design of offices.

We make great efforts to tailor the packages on offer as closely as possible to the specific needs of

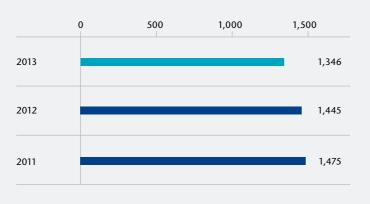
our employees. One example relates to the analysis of sickness rates, which showed that employees working in baggage handling tended to report more musculo-skeletal disorders during the main travel period in late summer. Since these medical conditions can be effectively prevented by muscle conditioning, we looked for a training option which is also accessible to staff working on the apron. The solution we found was the "Fitness Mobile" initiative. A mobile fitness center installed in a small truck has been available to our employees since autumn 2013. They are able to train in short but effective units during their working time. If the response is good, this vehicle will be replaced by a bigger model in 2014.

Our package of prevention measures also includes regular medical examinations and facilities such as the company's own fitness center at Frankfurt Airport. In 2013, we set up an online portal with comprehensive information on the subject of "Staying Healthy". This is used to inform our employees and help them arrange joint training programs.

### Attendance 2013



Total number of occupational accidents Fraport Group 2013





## Flexible, open and efficient

Over recent years, various changes in corporate culture have been initiated at Fraport. Why was this necessary?

Our core business is undergoing a profound change. The market is becoming more volatile, customer requirements are getting more differentiated, the social environment for us as employers is becoming more diverse – to name just three key words for changes in our working environment. The continuous transition also requires a change in the corporate and management culture. Flexibility and individual responsibility are becoming increasingly important. Our managers need to make inspiration tangible in order to be able to provide our employees with good support.

### Which role does the new Corporate Headquarters building play in this?

The new Corporate Headquarters building changes the immediate working environment and thereby makes a contribution to the development of a new corporate culture. Room space is now provided with a flexible structure and there are only a few individual offices. Meanwhile, there is lots of floor space for project work, exchanging ideas and communication. Wi-Fi allows people at different locations in the Corporate Headquarters to work together – for example also in the café bar on the ground floor. This promotes knowledge exchange across teams and various departments.

### What contribution can architecture make to the well-being and efficiency of employees?

The working environment should support employees in working well and it has the capability to do this. Workstations with high-quality facilities are provided in the new Corporate Headquarters building. These include chairs designed in conformity with the latest ergonomic standards, desks than can be reconfigured as standing workstations at the touch of a button, or large screens – just to name a few of the facilities. The entire building was designed to be generously configured and inviting – with the aim of making our employees and guests feel equally welcome and valued.



Interview with Susanne Jung, head of Fraport's HR Top Executives unit



# Systematic contribution to climate protection

Protecting the climate is one of the biggest global challenges of our time. Responsibility for the rise in average temperatures on the earth has been attributed to the increasing concentration of CO, and other greenhouse gases in the atmosphere



You can access the comprehensive section "Environment" in the online Sustainability Report by scanning this QR code with your smartphone. sustainability-report.fraport.

com/environment

air traffic causes around two percent of these CO<sub>2</sub> emissions, while around 0.1 percent of global climate gases are due to the operation of airports. Fraport has defined two targets for the reduction of the emission of climate-relevant gases. In the year 2020, the emission of CO<sub>2</sub> per passenger or 100 kilograms of airfreight at Frankfurt Airport should be 30 percent less than in 2005. This correlates with our second target: Total CO<sub>2</sub> emissions should not exceed 238,000 metric tons in the year 2020. The second target was shifted downward in 2013 in line with the postponement of new infrastructure projects.

The International Energy Agency calculates that

In order to achieve these targets, we joined forces with the Öko-Institut (Institute for Applied Ecology)

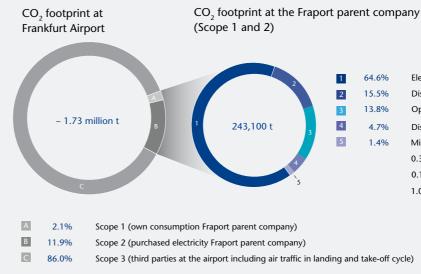
to systematically review our company in 2012 with the objective of identifying the potential for climate protection. 86 percent of the CO<sub>2</sub> emissions at Fraport AG are caused by the operation of the terminals, buildings and equipment. Increasing the energy efficiency for these areas thus represents a critical key for reducing CO<sub>2</sub> emissions. When we carry out refurbishments and upgrade measures, we therefore prioritize the improvement of energy efficiency. One example of this is the gradual replacement of the air-conditioning systems in Terminal 1 between the years 2007 and 2020. When this measure has been completed, we will have made use of 40 percent of the total savings potential of Fraport AG for this period. In 2013, we also launched a large number of small field trials to test energy-saving procedures. This includes smart,

use-dependent terminal lighting outside operating hours. Fraport achieved additional savings with the modernization of the baggage conveyor system. The energy consumption of this system has been lowered by 16 percent in a number of ways including reduction of the frictional forces generated by the belts, the use of more efficient motors, and

When new buildings are constructed, Fraport also focuses on energy efficiency. The German Sustainability Building Council (DGNB) awarded the new Corporate Headquarters its Gold Certificate in October 2013. The certification system of the DGNB includes environmental, economic, sociocultural and functional qualities. High standards were also defined for energy-related equipment and fittings at the planning stage for the new Terminal 3.

The vehicles in our company fleet are responsible for approximately 14 percent of the CO<sub>2</sub> emissions generated by the Fraport parent company (relating to Scope 1 and 2). Gradually moving over to electric vehicles is one of the options with potential for reducing emissions. Since a lot of short distances are covered particularly when handling aircraft on the ground, the use of electric vehicles in these areas makes a lot of sense. This is especially the case for ground handling vehicles with particularly intensive energy consumption, such as tow-trucks, conveyor-belt and pallet loaders. We are also gradually increasing the proportion of electric cars. In 2013, eleven new electric cars were purchased, with the result that at the end of 2013 a total of 18 electric cars were operating at Frankfurt Airport for Fraport AG. The Federal Government is subsidizing tests to investigate the suitability of electric vehicles for regular operations at airports in the program "Elecromobility in Model Regions" and commended the joint project "E-PORT AN" as a "beacon project" in June 2013. A number of different initiatives are being carried out under the umbrella of this project.

### CO<sub>2</sub> footprint at Frankfurt Airport and Fraport parent company 2013



13

partial shutdowns of some parts of the conveyor system when there is no baggage to transport.

1	64.6%	Electricity consumption Fraport parent company (Scope 2)
2	15.5%	District heating consumption Fraport parent company (Scope 2)
3	13.8%	Operation of vehicles and equipment (Scope 1)
4	4.7%	District cooling consumption Fraport parent company (Scope 2)
5	1.4%	Miscellaneous:
		0.3% Operation of standby power supply system (Scope 1)
		0.1% Operation of fire brigade exercise facility (Scope 1)
		1.0% Operation of fossil-fired facilities (Scope 1)



### Hosting the climate conference



You can use this code to obtain more information on climate protection in the Online Sustainability Report using a smart phone sustainability-report.fraport. com/enviro nent/climate protection

In 2013, Fraport hosted the annual conference of the "Carbon Disclosure Project" (CDP) at Frankfurt reporting initiative launched by the finance Airport. This brought the debate about climate protection to a key transport hub – and hence "right into the eye of the hurricane" as Executive Board Chairman Dr. Stefan Schulte described the choice of venue in his welcome presentation. CO<sub>2</sub> emissions and energy consumption are increasingly regarded by players in the capital markets as one of several indicators for defining the medium and long-term intrinsic value of a company.

The CDP is a leading independent global climateindustry. It analyzes companies on the basis of their climate strategy and CO, reporting. Fraport has been involved in the CDP since 2006 and has been rated among the best companies since the first ranking was established. In 2013, membership of the "Climate Disclosure Leadership Index" (CDLI), which includes the best ten percent of the companies participating in the CDP, was once more confirmed.

### Becoming measurably better

In 2013, Fraport introduced automated and systematic controlling and reporting for energy consumption and costs, as well as for CO, emissions. The relevant data are now being recorded monthly on the basis of invoices and with the support of IT. This enables us to respond to more stringent reporting requirements which make it necessary for us to report the CO<sub>2</sub> footprint more quickly. The new system is also a controlling instrument which enables energy costs and the level of attainment to be monitored in light of our climate-protection targets.

Fraport bundles the data for the relevant energy carriers of electricity, district cooling and heating, gas as well as fuels for vehicles and combustion plants in clusters which reflect the operating units or processes in the area of buildings, mobile processes and equipment. Each cluster is directed by an operations manager who provides explanations for the amounts of energy consumed in reporting. A report of the results is submitted to the Executive Board every six months including an interpretation at aggregated level and recommendations for action. Furthermore, the value "CO<sub>2</sub> per traffic unit" has been included in monthly reporting of key indicators.

## Fewer vehicles better deployed

### What benefits does car sharing bring to Fraport?

The biggest advantage is that we need far fewer vehicles because the existing vehicles are used much more efficiently in the car pool. For example, we are able to reduce the vehicle fleet in administration by about 40 percent. This is equally beneficial for our budget and the environment. A good side effect is that employees are able to enjoy trying hybrid vehicles. out a different car sometimes.

### What is the response to the electric cars being used in the car pool?

### How do members of staff book the cars?

They can reserve and borrow a vehicle at one of the three car-sharing stations using the automatic booking machines there. It is even easier to make a booking on the Intranet from workplaces. Approximately 1,500 Fraport employees currently have access to the car pool.

After initial skepticism with respect to the unaccustomed e-drive and its dependability, the electric cars are now very much in demand. The car pool currently has around 70 vehicles, including seven with an electric drive and eight



### What are your plans for the car pool in the near future?

During the coming months, we will be opening other car pool stations at Frankfurt Airport. At the same time, we are regularly adding new e-models to the vehicle fleet. The aim is to gather experience with different vehicles and technologies before identifying the vehicles that are particularly good at meeting our requirements.



Interview with Thomas Klüber Driving Service and Car Pool



## Active against aircraft noise

A total of 28 stationary measuring stations and three mobile stations are located all around Frankfurt Airport. They are highly sensitive and they operate 24 hours a day to provide Fraport with an important set of data for assessing noise impact in the sur-rounding areas. The results are unambiguous: aircraft noise overall has not in-creased since the new Runway Northwest came into operation. However, a redistribution of noise has taken place as a result of the new approach and take-off routes.



You can access the comprehensive section "Noise abatement" in the online Sustainability Report by scanning this QR code with your smartphone. sustainability-report.fraport. com/noise-abatement

Fraport implements a wide range of different measures to restrict the noise impacting on the residents living near to the airport as much as possible. We engage in active noise abatement, which involves the noise being reduced or at least better distributed directly at the source. Fraport also car-

ries out passive noise abatement, which is directed toward noise insulation of buildings, including various compensation packages.

In 2012, we joined forces with partners from the air traffic sector, the Hesse State Government and the region under the umbrella of the "Alliance for Noise Abatement" to develop 19 measures that promote active noise abatement. An important building block in this approach is to implement procedures for approach and take-off that promote noise reduction. These are currently being tested at Frankfurt Airport and some of them have partly already been implemented. For example, Fraport is working together with the German Air Navigation Services (DFS) on the Ground Based Augmentation System (GBAS) which allows the approach angle to be raised by 0.2 degrees on all landing runways. This allows aircraft to fly at a greater altitude in the approach in order to bring about a reduction in noise for inhabited areas around the airport. The

approach angle will be even steeper in the future project "Steeper approach" (see box on p. 18). In the DROps project (Dedicated Runway Operations), we bundle flights at specified times of the day on certain take-off and landing routes in order to give residents in defined communities time breaks.

We integrate our airline customers in our noise abatement activities. We have been using noiserelated airport charges to give airlines an economic incentive to use guieter aircraft in their fleets for over ten years now. At the beginning of 2013, we created a more differentiated system for these charges so that more noise-intensive aircraft have to pay much higher charges, while noise efficiency is rewarded with a discount of up to ten percent.

In 2014, we have once again significantly enhanced the incentives to use low-noise aircraft. Fraport is granting the airline companies retroactive reductions of airport charges in 2014 and 2015, if they deploy quieter aircraft to achieve passenger growth on international routes. On continental routes these types of aircraft are classified in noise categories from one to eleven, and on intercontinental flights the classification is based on the noise categories one to twelve.

To promote passive noise abatement, another element in the corresponding set of measures is subsidizing construction measures. Fraport has comprehensive statutory obligations with regard to some 86,000 households that are located in a specific geographical area around the airport, giving them a defined entitlement to submit claims for passive noise abatement measures. The geographical area has been specified by the Hesse State Government based on the very stringent rules laid down in the German Aircraft Noise Act (Fluglärmgesetz). We comply with the full scope of these claims. Furthermore, we have joined with the Hesse State Government in setting up a Regional Fund that provides between €265 million them into rental properties. It is notable that and €270 million to finance further measures.

Through the Casa Program, Fraport offers financial compensation to homeowners with properties in the new approach flight paths who purchased their property before the zoning decision for the new Runway Northwest. If aircraft fly over homes at particularly low altitudes, Fraport will purchase these residential properties or provide compensation for the impairment of living conditions. Under the umbrella of the "Alliance for Noise Abatement 2012", Fraport AG increased its commitment to more than €100 million so that a total of 1,000 residential units are now able to benefit from the Casa Program (Casa 2). Fraport has now purchased more than 200 living units and turned there are very few voids.



Protection against damage to roof coverings Protection against aircraft noise is not the only program instituted by Fraport that is focused on protection and prevention. A program has also been set up to provide protection against potential damage to roof coverings caused by wake turbulence. This relates to air vortexes which arise during flight as a result of air-flow equalization on the wing surfaces. In certain weather conditions they can descend to the ground in a relatively stable manner over several minutes. At locations in the approach area where the altitude of the aircraft is very low, air vortexes may create wind suction which is capable of loosening tiles from their anchor point on the roof. Fraport therefore takes precautionary measures in areas where the flight altitude is 330 meters or less, and secures roof tiles with brackets. 450 applications have already been received from around 3,000 properties which are entitled to benefit from this precautionary measure.

## Interactive map on aircraft noise issues



You can use this code to obtain more information on aircraft noise issues in the Online Sustainability Report usina a smartphone. sustainability-report.fraport. com/noise-abatement/ monitoring-and-transparency Sensitivities to noise are always subjective – each person perceives aircraft noise differently. However, noise emissions can be quantified and calculated. And other factors, such as the current wind direction or the direction of approaches and take-offs exert a verifiable influence on the impact of noise perceived by each individual.

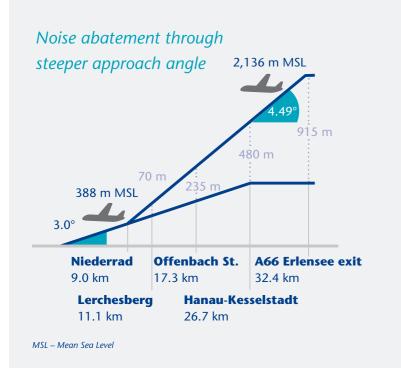
A top priority for Fraport is providing comprehensive and transparent information about noise values and flight data for the residents living around the airport and other local citizens interested in Frankfurt Airport.

Since November 2013, Fraport has provided a unique information system on the subject of noise emissions with the interactive aircraft noise map entitled FRA Map. The special feature of FRA Map is that users can call up information that is individually tailored to their own location

and place of residence. When the details of the address have been entered, a few clicks take the user to information about flight routes, distribution of operations or measurements of aircraft noise in the immediate surroundings of the input address.

The zones of the noise abatement area, the entitlement areas of the Casa Program and the program for securing roof tiles as a precautionary measure are also displayed.

FRA Map was coordinated with the information needs of the residents affected by noise. There is therefore a particular focus on data that is frequently requested. FRA Map is also intended to provide local residents affected by aircraft noise with information about possible passive noise abatement measures and to make it easier to get in contact with technical specialists at Fraport.



Precisely 4.49 degrees – the approach is this steep for a period of time in the so-called "steeper approach" as the aircraft descends to the ground. This is around 50 percent steeper than the usual approach angle, which is 3.0 degrees. In October 2013, the new approach procedure was tested for the first time on the Runway Northwest. Measurements of the descent were taken by Fraport and the Environment and Neighborhood House (Umwelthaus). The advantage of the steep descent is that aircraft initially fly over the surrounding areas at a greater height, with the effect that these areas receive relief from aircraft noise. Before the "steeper approach" is introduced into regular operation, further research needs to be carried out on flight ability and planning for flight procedures. The achievable noise reductions also need to be validated.



## **Research into noise abatement**

### In which areas of noise abatement research is Fraport particularly active?

We are carrying out intensive work on approach and take-off procedures and we are working in close cooperation with the German Aerospace Center (DLR) and with German Air Navigation Services (DFS). On the one hand, the procedures are directed toward flying over residential areas at higher altitudes than has previously been the case and secondly on flying around densely populated urban agglomerations. One of the aims of the research is that it should not be necessary for aircraft to begin a straight final approach at such an early stage. One focus here is on research into satellite guided navigation techniques like the Ground Based Augmentation System (GBAS).

### What research is being carried out into other technologies?

One field of research where we are right at the start relates to the issue of "Point Merge". The procedure will involve initially bundling airliners as they approach in a funnel-type formation and from there guiding them incrementally from there and if possible maintaining them in a continuous descent toward the airport.

### What advantages does this procedure have?

such a promising future?

ently and at a greater altitude. It would therefore be possible to fly round densely populated areas using segmented routes and to reduce the noise emissions experienced by the people living in these areas. We are now looking into how it would be possible to integrate the new approach procedures into routine everyday operations and also at peak periods.

### Has a schedule been drawn up for implementation yet?

In August 2014, the first regular flights are permitted to take place in the GBAS procedure. However, these are so-called ILS Lookalikes, in other words they are approaches which correspond to those of the current Instrument Landing System (ILS). Alternative procedures, such as the 3.2 degree

in the future?

Frankfurt.

### Why does this technology have

GBAS permits approaches to be carried out differ-

Aircraft produce noise. In the foreseeable future, this will not change so radically that there will be no aircraft noise in the Frankfurt/Rhine-Main urban environment. However, our objective is to continuously reduce the noise impact associated with individual flight movements.

approach using GBAS, may only be tested to reduce noise emissions when aircraft can precisely replicate these using GBAS and reliability has been verified.

You have to generate thrust in order to keep an aircraft at a constant height. This generates additional noise. The thrust is not necessary in a continuous descent and the engines can be kept at a low-noise idle. The approach point can be positioned in such a way that large urban settlements can be impacted less significantly by noise emissions. The point-merge procedure is likely to be tested at Hanover Airport before it would be considered for a major airport like

### Are you expecting further improvements



Interview with Max Conrady Head of Fraport's Environmental Impact, Noise and Air Quality unit



# The center of life

Frankfurt Airport is a leading international air traffic hub. The Frankfurt/Rhine-Main region has very high locational quality and an excellent transport infrastructure. This is particularly true for companies which depend on global networking. 5.5 million people living in the urban area around Frankfurt also benefit from this.



You can access the comprehensive section "Community" in the online Sustainability Report by scanning this QR code with your smartphone. sustainability-report.fraport. com/community

tance to the airport when they go on holiday, and a lot of people work for companies that benefit from their close proximity to the airport. In 2012, around 78,000 people worked at the airport itself in more than 500 businesses.\* This means Frankfurt Airport is the biggest workplace in Germany and it makes a significant contribution to the economic strength and prosperity in Germany and the Rhine-Main region itself. Alongside these positives, there

They enjoy the advantages of travelling a short dis-

are impacts that result from the operation of the airport. The high traffic volume is associated with aircraft noise, especially for people who live in the approach flight paths. We are aware of this field of tension and we demonstrate our responsibility by engaging in regional projects. Our objective is to play our part in maintaining and improving the quality of life in this urban environment with all the upsides and downsides typically associated with such a conurbation.

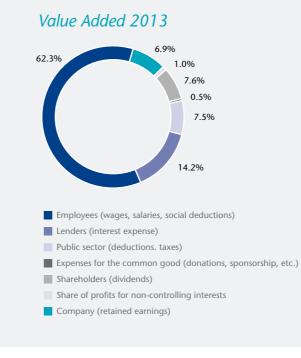
Connecting Sustainably – Brief Report 2013

The provision of funding for the RhineMain Regional Park is one example of a contribution from Fraport to building up a relaxation and adventure environment in the middle of an urban cityscape. Different features have been gradually melded together over the years, connecting up the landscaped areas, historic gardens, monuments of industrial culture and parks in a network of paths and trails. This local recreational area enhances the leisure value of the region. It allows visitors to explore the diversity of Frankfurt's surrounding environment on foot or by bicycle.

The "Frankfurt Garden" is all about more quality of life in the city. In 2013, Fraport was one of the main sponsors to fund the initiative directed toward transforming the former somewhat unsightly Danziger Platz into an urban vegetable garden with a high level of added social value. Starting in spring 2013, vegetables and herbs have been cultivated in more than 50 raised beds and greenhouses for the first time. The gardens are open to the public all year round and Frankfurt's residents, school chil-dren and employees from neighboring companies come here to tend the gardens and relax. Another attraction is provided by the varied program of events designed to blend in with the seasons of the year.

The Frankfurt Garden and the RhineMain Regional Park have been sponsored from the resources of the Environmental Fund, which Fraport has used since 1997 to support environmental conservation projects, research and environmental educational projects. Since the Environmental Fund was established, more than

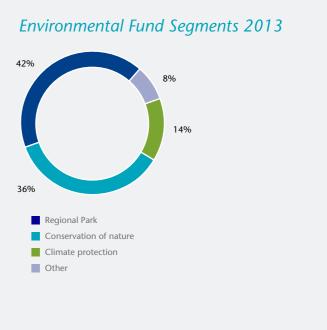
A high level of social cohesion combined with an attractive range of sporting and cultural activities help to achieve a high guality of life in the region. We have therefore been providing financial support for lots of different social, sports and cultural projects in the region around Frankfurt Airport under our motto "Active for the Region" for many years. The so-called "Neighborhood Framework" forms the geographical limit for our sponsorship activities. The corresponding area has increased as the new flight routes have come into operation. In 2013, we supported 1,120 projects with various clubs and associations, and 400 sports teams with donations or sponsorship amounting to a total of €5.5 million.



\* The figures for 2013 were not available by the editorial deadline.

800 projects have been sponsored with funds adding up to nearly €34 million.

Another focus of our social engagement is the funding of education and the provision of improved opportunities for young people living in the region to obtain jobs and training, particularly those from socially deprived sections of the population. The aim of the "Mobile Youth" project is to integrate young, unemployed men aged between 18 and 24 years into the world of work. These young people go through a two-year qualification program in ground handling services. Our second project in this area is called "Ready for Take-off". Each year this program helps twelve young people who have not been successful in application interviews to bridge the gap and get a start on the career ladder. When they have successfully completed the program, we help them to obtain a place in one of our technical apprenticeship trades.





http://www.proregion-stiftung.de



http://www.erich-becker-stiftung.de

## The Fraport foundations



You can use this code to obtain more information on the Fraport's foundations in the Online Sustainability Report using a smartphone. sustainability-report.fraport. com/community/voluntaryengagement/#foundations Fraport has endowed two foundations. The Erich Becker Foundation was established in 1986 on the initiative of the former Chief Executive Officer Erich Becker under the name "Frankfurt Airport Foundation" and was renamed in his honor in 2004. The purpose of the foundation is to promo te academic development and research on the issues of air traffic, mobility and logistics. When new appointments were made to the Board of Management in 2012, this spectrum was expanded to include sustainability and mobility of the future. The stable income from the endowed capital of €1.53 million has been used by the foundation to finance 754 diploma theses, 228 dissertations, 12 post-doctoral theses (habilitations) and 76 other projects. Since 1988, funding of €2.8 million has been approved.

The promotion of apprenticeship training has a well-established tradition at Fraport AG. Since the 1980s, regional apprenticeship projects have been supported by company funds. The ProRegion Foundation was established in July 1999 in order to provide a firm platform for these activities and ensure permanent and secure financial backing. The endowed income yielded by the foundation assets amounting to €6.11 million is mainly used to support projects, institutions and local agencies which improve the training and job opportunities available to young people living in the Frankfurt/ Rhine-Main region. Other resources are channeled into the creation of new apprenticeship places and retaining existing ones. Funds are also used to provide equipment for training facilities. A total of some €519,000 was approved in 2013.

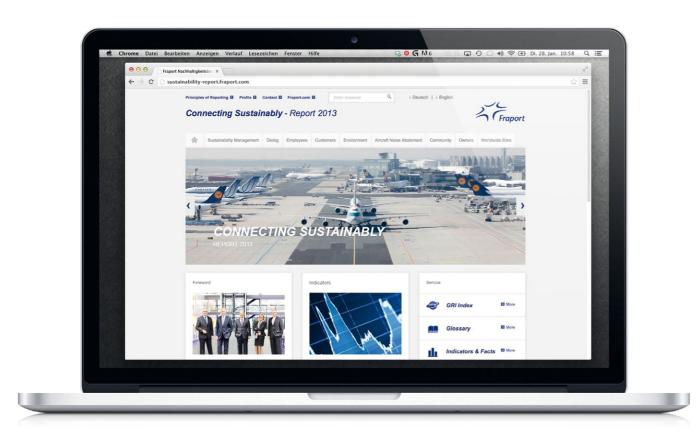


### Successful against the tide

In the summer of 2013, the River Elbe burst its banks in many places. Dykes were breached, villages and other areas were flooded – all assistance was gratefully received. Frankfurt Airport's Fire Department supported local rescue services in Barby, Saxony-Anhalt, to mitigate the impact of the flooding. Colleagues from Fire Services worked day and night in several shifts of six people using advanced equipment to pump water back into the river. This action prevented lots of houses and apartments from being destroyed by the flood waters.



## **Online Sustainability Report**



We present comprehensive information outlining the sustainability achievements of Fraport AG in our online report "Connecting Sustainably – Report 2013" (www.nachhaltigkeitsbericht.fraport.de). It meets the requirements of "Application Level A+" and therefore fulfills the highest level defined by the guidelines for the Global Reporting Initiative in version G 3.1. The Airport Operators Sector Supplement dealing specifically with airport operators was also taken into account.

This online report also acts as a progress statement in accordance with the UN Global Compact.

You can access the Sustainability Report by scanning this QR code with your Smartphone.

sustainability-report.fraport.com

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Fraport has neutralized the  $CO_2$  emissions generated in connection with the printing and production of this report. The corresponding quantity of emission rights (EU Allowance) was eliminated on 21.03.2014 with the transaction ID-No. 1436995.

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