

## GSA Partners cooperate in Canterbury

As we enter GSA's final year it is essential to discuss project status and progress. The most recent partner meeting (27th-28th February) was hosted by one of our UK partners, the Institute for Sustainability. The venue, located in the historic grounds of Canterbury Cathedral, was the perfect setting for an evaluation of what has been achieved so far and what still has to be done.

The partners have made a review and now set course together for the last stage of the Green Sustainable Airports project. Following the next technical meeting in Billund this May we will be focussing on a 'happy landing' at the final conference in Drenthe next September!



# The Institute for Sustainability & NPL

**Projects are dynamic and GSA is no different. There have been some partnership changes since the beginning of the project. For example, EEDA and SEEDA, regional economic development agencies in the UK, were abolished by the new UK Government in 2010 and we are very pleased to have the Institute for Sustainability (IfS) and the National Physical Laboratory (NPL) in their place.**

Within the GSA project the Institute will focus on environmental and sustainability issues which will enable the IfS to disseminate the findings for ground operations of regional airports to their large building retrofit program for the housing sector. The IfS will also continue to work with international partners and Kent CC on emerging UK aviation policy.

The NPL focus is on carrying out environmental monitoring at Southend Airport in Essex. The airport recently achieved a substantial commercial commitment from Easyjet and will experience increases in flight operations and passenger throughput. The monitoring will focus on ambient and aviation noise levels over a period of 6 months. The innovation lies in the fact that

NPL has developed brand new, low cost, minimum maintenance noise metering equipment which is particularly aimed at the market of smaller and regional airports to reduce the cost burden of continuous monitoring. With their own investment of 50% match funding, NPL is testing this equipment as to its reliability and applicability. Should the demonstration in Southend be successful and to the full approval of the transnational partnership, it may be possible to carry out further tests in other, regional airport partner locations, such as Kortrijk, Billund and others. A full progress report will be given at the next partner meeting in Billund this May.

The National Physics Laboratory (NPL) maintains a wide portfolio of internationally visible research programmes that advances measurement science, underpins the SI system and supports various cross-disciplinary technologies. NPL's Acoustics group undertakes long-term, leading-edge research to develop new and improved measurement methods that will impact on UK future services and products.

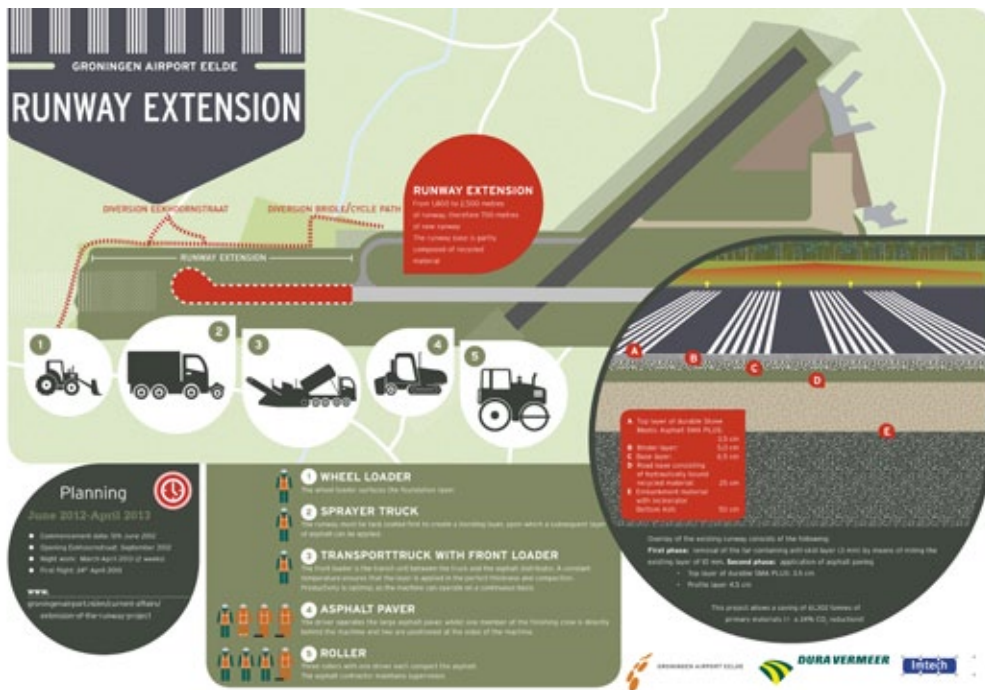
## What is the IfS?

The Institute for Sustainability (IfS) is an independent charity established to significantly accelerate the delivery of economically, environmentally and socially sustainable cities and communities. Focus is on delivering innovative demonstration projects and developing programmes to actively capture and share learning and best practice. The Institute plays a number of roles in supporting and enabling projects. These include:

- Creating market confidence to encourage investment and innovation
- Identifying financial, economic and social models which allow transformation at scale
- Connecting communities with jobs and skills development opportunities
- Informing and supporting a step change in industry practice.
- Leveraging funding
- Sharing knowledge and best practices
- Managing projects, shaping and guiding from inception to delivery.

IfS activities focus on the challenges, and opportunities, of creating sustainable cities and communities. Resource efficient buildings, sustainable infrastructure and resources, and transport and logistics, all feed into the Institutes's cross-cutting projects and programmes. These include Total Community Retrofit, which concentrates on integrated, systems approaches to sustainable development, covering an inter-related range of elements that have an economic, social and environmental impact on the places we live and work. Sustainable aviation is an integral component of the 'Total Community Retrofit' ambitions in the Thames Gateway.





# Runway Extension at Groningen Airport Eelde

**In June 2012 work started on the runway extension at Groningen Airport Eelde. Despite the harsh weather conditions of the past months, all is going according to schedule. The extended runway will be ready for the first passenger flight to take off on 24th April. Two weeks prior to delivery date the airport will close and work will continue around the clock to ensure a timely completion. During this period (on 16th April to be precise) GSA partners have the opportunity to take a close look behind the scenes of this unique project!**

The project is a milestone in the airport's history and also a paragon of sustainability in Europe. For this reason the project is being documented in a film which will be used to inform not just the region but also other airports around the world about this special project.

The film will be a dynamic portrait, underlining the sustainable aspects of this project. For example, there is a 24% CO2 reduction in comparison to other building projects and a saving of more than 61,000 tons of ground material. Moreover, the electricity required comes from wind energy and LED lighting – resulting in an energy saving of 60%. The level of the runway itself has been raised using so-called 'ground ash'

from a local recycling plant. Another unique fact is that the runway will not have the tar top layer that is standard at airports but a one of SMA-plus – both innovative and very environment-friendly. Groningen Airport Eelde is the very first airport to have such a top layer. All these elements will be shown in the film.

The film premiere will be in May 2013, and available for the GSA partners from then on. Of course the film will also be broadcast through various channels, such as the project's website and Youtube.

**Preview!** You can see a preview of the film at [www.groningenairport.nl/sustainability](http://www.groningenairport.nl/sustainability) - the clip is online in April!



# London Southend Airport hosts GSA international event

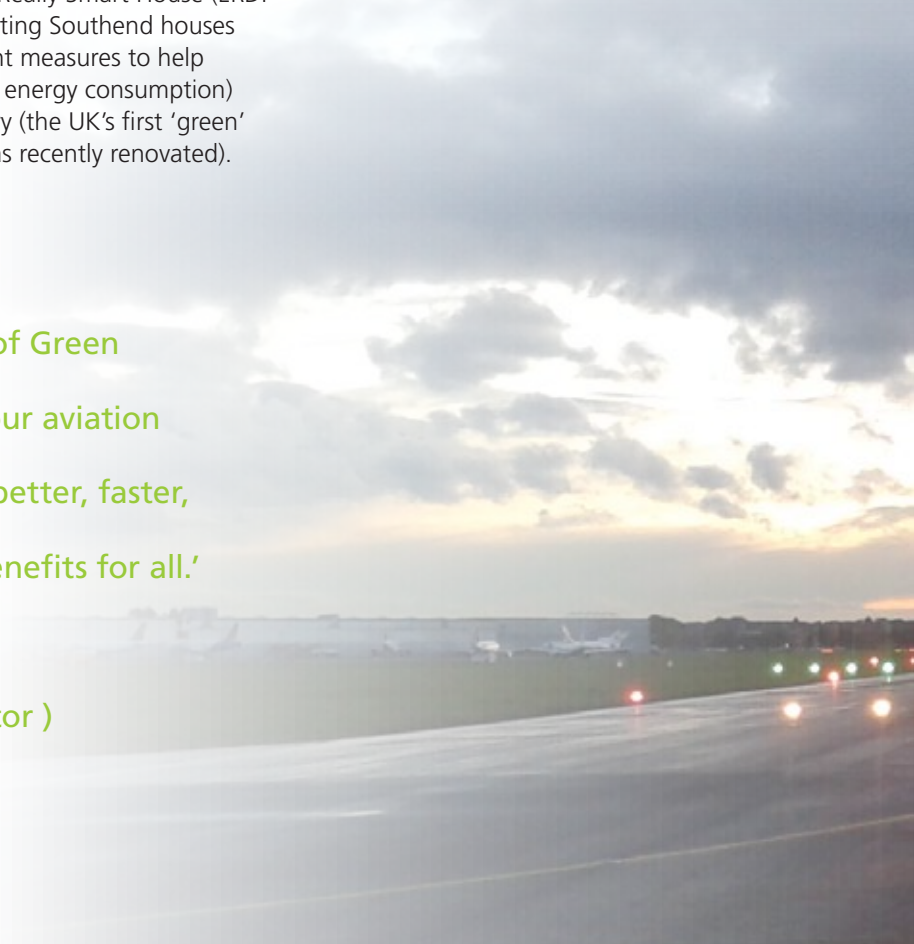
**Thirty-five delegates from across the UK and Europe were in Essex last October for the Green Sustainable Airports conference, hosted by London Southend Airport. Guests included representatives of Groningen Airport Eelde (Netherlands), Billund Airport (Denmark), Bremen Airport (Germany), Sandefjord Airport (Norway), Kortrijk Wevelgem Airport (Belgium), plus Kent's Manston and Lydd Airports. This event is the first conference to be held at the new London Southend Airport Holiday Inn.**

As well as hearing about the developments at London Southend Airport, the visitors also saw and heard about other 'green' initiatives underway in the Southend-on-Sea area. The delegates visited the new Cultural Centre on Southend Pier in the company of Cllr Sally Carr, The Mayor of Southend. They discovered more about local projects such as Low Carbon Business (ERDF funded support programme which runs across South Essex helping businesses to become more competitive by being more resource efficient), Really Smart House (ERDF funded project refitting Southend houses with energy efficient measures to help residents with their energy consumption) and Prittlewell Priory (the UK's first 'green' museum, which was recently renovated).

Over £100 million has been invested in London Southend Airport by owners Stobart Group since it was acquired in 2008. New facilities include a train station on the London Liverpool Street (just 53 minutes into the heart of the City), an Air Traffic Control Tower, terminal building, runway extension and radar. There is also a 4-star Holiday Inn within walking distance of the terminal - 129-room hotel features a panoramic rooftop restaurant plus private dining and high tech conference facilities.

'We are very proud to be a member of Green Sustainable Airports and work with our aviation partners to explore ways of running better, faster, cheaper and greener airports with benefits for all.'

(Alastair Welch, LSA Managing Director )



# Aeronautical Ground Lighting

## Evaluating the Business Case for LEDs

A study was commissioned by London Southend Airport as part of the Green Sustainable Airports project. LED lights have developed in use for Aeronautical Ground Lighting (AGL) over the last 10 years in Europe and worldwide. The report reviews the differences in performance between standard tungsten halogen AGL and the new LED technology. It focuses on the aviation regulation requirements to maintain AGL and examines how LED and tungsten halogen Technologies compare in real World performance. It is apparent that AGL manufacturers place emphasis on the reduction in maintenance costs seen by

adopting LED AGL fittings over previous tungsten halogen fittings. The report reviews this closely and introduces an independent model for further use and development by airports.

The report concludes that LED AGL provides superior operational performance to tungsten halogen fittings, however, that real savings must be realised in maintenance costs for LEDs to make a real-term financial saving over the life of an installation.





**The Bird.** The feeling of flying inspired this swing, which encourages play for all ages.

## Design students kick off a new exhibition area in Billund Airport

**Billund Airport welcomes the spring season with the opening of a new exhibition area for exhibitions and other activities, which contribute to cultural experiences for passengers. This area opened on February 21st with an exhibition of seating furniture, which nine design students have made out of the so-called 'energy willow' from Billund Airport's own willow forest.**

Aviation, willow and young designers are an unusual composition. However, this is the combination, which frames the opening of the new exhibition area in Billund Airport. The opening of this new area is marked with a show case of unique design furniture made by nine students from the largest university college within design and business in Denmark, VIA UC, TEKO. The students were inspired by images from the airport and passenger behavior.

This is the first time that we use the airport space for this kind of exhibition and we are thrilled to show it to our passengers. It is a great pleasure to kick off the exhibition area in the international airport of west Denmark with an exhibition by creative students from our region, states Head of Project & Development in Billund Airport Anders Nielsen.





**FLOW.** FLOW is inspired by the architecture and the stream of people in the airport. The willow shapes the flow, which underlines life in the terminal.

### **Over half a million will experience exhibition**

About 800,000 passengers are expected to go through the airport in the time period of the exhibition and will have the opportunity to see the rare pieces of furniture up close. The nine students have themselves both designed and constructed the furniture. At first we were extremely excited about the collaboration with Billund Airport. It is a huge opportunity and great exposure to exhibit in these surroundings. Then we were introduced to the willow and suddenly we had a very great challenge ahead of us, states design student Karen Marie Toft, who created the piece FLOW.

### **An opinionated airport**

The combination of willow, great Danish design and an international airport is according to Anders Nielsen the perfect frame for the opening of the new area. Billund Airport grows its own willow forest, which contributes some 10-15 percent of the airport's need for energy to heat production. The willow initiative is part of reducing the airport's CO2 load. We are always trying to develop and find the best green methods of airport operations

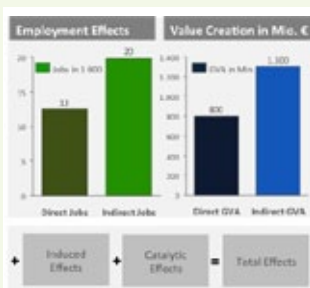
and a share part of a greater interregional EU project, Green Sustainable Airports. Furthermore, Danish design and Danish products have always been important to us. The new exhibition is a combination of the principles of sustainability and design, states Anders Nielsen.

### **Vote for your favorite for a chance to win**

In relation to the exhibition there is a facebook contest on [facebook.com/TekoDanmark](https://www.facebook.com/TekoDanmark), where you can vote for your favorite piece of furniture. Every participant enters a draw of a gift card to the airport shops, and the winning designer wins a trip to a design fair in Europe from Billund Airport.

The Green Sustainable Airport project was initiated by Groningen Airport Eelde (the Netherlands). The Province of Drenthe is responsible for project management and is acting as Lead Partner in cooperation with Groningen Airport Eelde. There are 17 partners and sub-partners from 6 countries in the North Sea Region. Each partner airport acts as a platform in the region for developing, testing, producing, monitoring and displaying innovative solutions and quick wins. The airports have a role as spindle between regional authorities, knowledge institutes and the business sector.

## Economic impact, trends and challenges



As part of WP5 – ‘Airport Acceptance and Regional Cooperation’ a study on the function and role of regional airports in the North Sea Region was appointed to industry expert Prof. Ulrich Desel. Together with M2P Consulting and the support of GSA partner airports, Prof. Desel conducted the study to estimate the regional economic impact and assess key trends and challenges for regional airports in the NSR.

The objective was to provide airports and authorities with market insights and advice in order to develop and adapt airport strategies as well as to derive guidelines for further policy recommendations.

According to the SWOT analysis conducted in course of the study, GSA airports have specific strengths in the areas of reliable service levels for customers, high passenger convenience and regional economic significance for regions.

Weaknesses revolve around high dependencies on single customers, high unit cost levels, growth limits and assessment of European institutions on airport funding. Opportunities can be exploited in the areas of infrastructure and business development, introduction of cooperation models while identified threats are posed through increasing cost pressure and tightening regulations.

The study revealed the importance of keeping a balance between the contribution of GSA airports to regional development, measures to tighten competition and the harmonization of safety standards.

### Study on Function and role of regional airports in the North Sea region

The study revealed that GSA airports significantly contribute to the economic welfare of the North Sea region and regions in its vicinity. Generating a total gross value added of more than 2 billion Euros, a total of 33,000 direct and indirect jobs can be related to the operation of GSA airports. By cooperating with local business and industry, GSA airports accelerate the indirect and direct job and value creation.

**Contact** Ben van Os, Project Manager, Provincie Drenthe, b.os@drenthe.nl, +31 (0)592 365665 | Onno de Jong, Groningen Airport Eelde, o.dejong@gae.nl, +31 (0)50 3097006 | Deirdre Buist, Provincie Drenthe, d.buist@drenthe.nl, +31 (0)592 365435

[www.greenairports.eu](http://www.greenairports.eu) | [gsa@drenthe.nl](mailto:gsa@drenthe.nl)

**Partners** The Netherlands: Provincie Drenthe, Groningen Airport Eelde NV | Belgium: International Airport Kortrijk-Welvegem | Germany: ZweckverbandVerkehrsverbund Bremen/Niedersachsen, FlughafenBremen GmbH, Der Senatorfür Wirtschaft und Häfen, Der Senatorfür Umwelt, Bau, Verkehr und Europa, VerkehrsverbundBremen/Niedersachsen GmbH, BremerStraßenbahn AG | United Kingdom: London Southend Airport Co. Ltd., Kent County Council, Institute for Sustainability, NPL | Norway: Sandefjord Lufthavn AS, Vestfold County Council | Denmark: Billund Lufthavn A/S, Billund Municipality, Thomas Cook Airlines Scandinavia A/S, Billund Varmeværk Amba