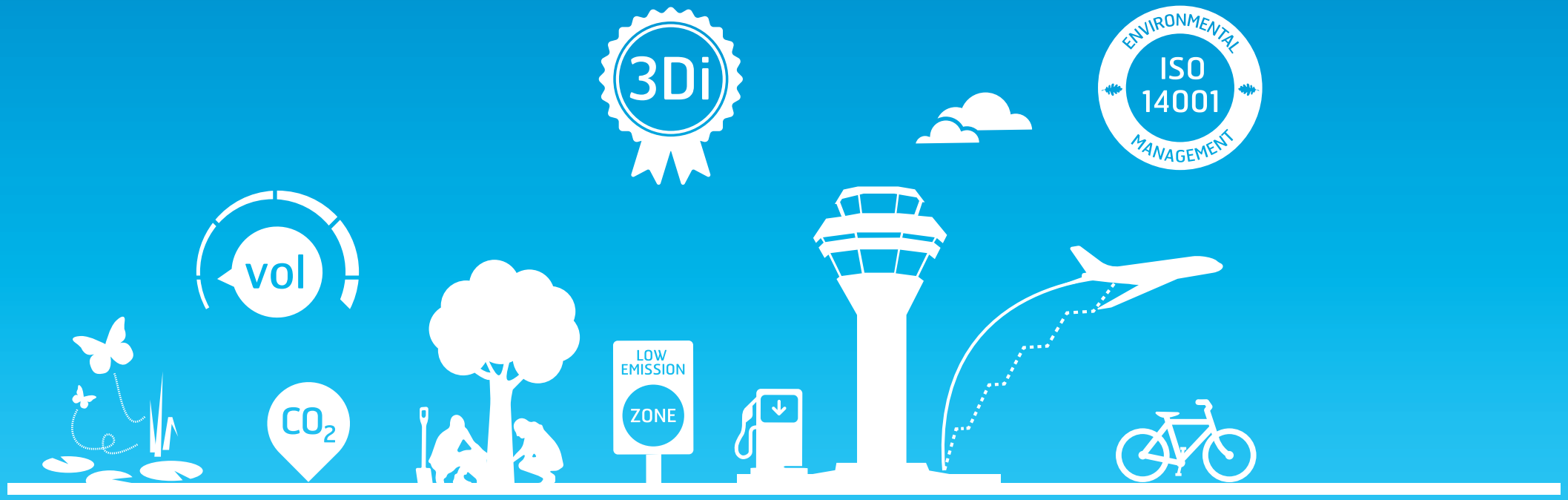
NATS

# Responsible Business report 2015-16



# Introduction

Most of us take flying for granted. Travelling by air is now a fact of life for both business and leisure. Few of us give it a second thought.

Even less thought is spared for the infrastructure which underpins the UK's critical place in the world's most important travel network. The UK's airspace is as important a part of national transport infrastructure as our roads and railways; and it is crucial for our island nation's international trade.

Some 2.3 million flights carried hundreds of millions of passengers through our airspace last year; airspace designed more than 50 years ago for half-a-million flights, at most. Managing those aircraft safely and efficiently is our priority, and doing so in a way that minimises their environmental impact has become increasingly important as traffic volumes have increased.

Part of why we publish this Responsible Business Report, which I'm pleased to introduce, is to outline what we do above and beyond our core role in air traffic management, demonstrate the contribution that enlightened air traffic control can make, and how we interact with customers and the general public.

We set out in 2011 to reduce ATM-related $CO_2$ emissions by 10% by 2020; a very challenging target, and I am delighted to report that we have achieved a reduction of 4.3% so far and continue to identify new opportunities to deliver the remaining 5.7%.

The success of this programme directly impacts our customers and our reputation for delivering excellent service. Saving money on fuel remains vital because although oil prices may be low now, some airlines are paying higher, previously hedged prices. With the prospect of continuing volatility in the oil market, fuel usage is still a key focus for our customers, and will remain so for the foreseeable future.

Plans by the International Civil Aviation Organization (ICAO) to price aviation $CO_2$ emissions from 2020, mean that savings will become an even more critical part of airline sustainability.

Our environmental performance is built into the Regulator's performance assessment of NATS. We have developed an innovative measure – called 3Di – to keep track of NATS contribution to to shrinking aircraft $CO_2$ emissions. While we have hit our targets for the past three years, in 2015 we fell fractionally short, at 30.1 against a target of 29.7, and will renew our efforts this year.

We are also regulated to plan and provide future airspace capacity, and this major infrastructure responsibility goes hand-in-hand with our duty as a corporate citizen: to be a good neighbour. Our teams have spent a great deal of time in the last year meeting many people concerned about what changes to airspace can mean for your communities, especially near airports. This dialogue really matters in helping to balance the redesign of airspace to increase capacity and reduce its cost for the traveling public against the impact of aircraft noise to those communities, and we have appointed a Community Relations Manager with specific responsibility in this important area.

Let's not forget that we have already made great progress. Our work to make descents into airports quieter and cleaner has been accredited by The Prince's Charity, Business in the Community. We have already achieved $CO_2$ emissions and noise reductions through major new projects to develop cross-border arrival management and time-based separation at Heathrow Airport.

We now chair the UK's industry-wide Sustainable Aviation body, a unique partnership of aviation experts looking across the industry at better ways of working.

Our stewardship of the Swanwick Lakes nature reserve around our main centre in Hampshire, has passed its latest Biodiversity Benchmark. Our corporate charity giving has exceeded £220,000 from our Footprint Fund, we support Aerobility and our people continue to additionally support a range of great causes.

Of course there is more to do; there always is. This is an area of our work that NATS takes very seriously and we will continue to work hard every day to ensure that we are the best we can possibly be.

**Martin Rolfe**
CEO

# Making a real difference to airspace

How NATS manages the UK's airspace directly affects airlines, airports, communities, the Ministry of Defence and other users. We strive to balance the traffic requirements of our customers with the environmental impact of our operations, including noise for local communities.


# Noise

NATS continues to work closely with industry partners in Sustainable Aviation on noise mitigation policy, as well as directly with individual airports and community representatives. We share our expertise in service of supporting agreed local noise mitigation.

Our performance on enabling continuous descent operations at airports, through our work with Sustainable Aviation, made further progress this year and was re-accredited for the "Engaging Customers on Sustainability Award" as part of Business in the Community's Responsible Business Award. Read full article


We recognise the direct and indirect impact that aviation has on local communities and the need for us, as one of the key industry stakeholders to understand, and where possible, mitigate their concerns. Our aim is to help balance the needs of airlines, airports and the local communities, and find compromise that can work for all parties. We wish to help people understand the complexities of managing a geographically constrained airspace over a densely populated country in a world where more and more people want and expect to fly. It is our hope that this understanding provides a foundation on which we can make changes to the airspace that benefits as many people as possible in a fair and balanced way. It is only through the engagement of all parties: government, regulators, airlines, airports and communities that this can succeed.

# Making a real difference to airspace: Noise continued

## A considered approach to noise – Ian Jopson, Head Environmental & Community Affairs

Among air navigation service providers our approach to the environment over the last year has been unorthodox.

Air traffic control is predicated on command and control. You rely on us to direct 2.3 million flights a year safely and efficiently through UK airspace. And that means following well established procedures to enable us to manage an increasing number of journeys without compromising the safety of our network.

Ian Jopson

So you would think that our commitment to leave behind a smaller $CO_2$ footprint would follow the same pattern? Up to a point. The next stage of exploring more creative ways of doing that means thinking differently. This is why we asked our customers, stakeholders and community action groups to come together – and to prioritise what we should be doing to tackle the environment challenge. And one issue that came through loud and clear was the concern over aircraft noise.

For airports and their communities, it's a critical issue. Although aircraft have become quieter – over the last 50 years, noise per flight has been cut by 75 per cent– further reductions have to be made. What community groups continue to tell us demonstrates that it remains a worry.

So, progress, but not enough. What we aim to show in this year's report are the improvements we are striving to make in our network, around our airports and in our centres to be quieter, cleaner and more receptive.

We believe we are progressive, as the first air navigation service provider to not only set environmental targets, but also the first to quantify these ongoing savings in our regulatory framework, we've gone much further than our peers.

The fact we share our ideas across the industry should also be seen as positive. By breaking new ground, we can contribute to greater understanding across our global network by sharing our successes, insights and ongoing obstacles.

## London calling

We successfully brought in the first phase of airspace change over the south east of England (LAMP1A) in February 2016. The changes include a point merge arrival system for London City airport which keeps arrivals over the sea instead of over land, new departure routes for London City to enable aircraft to climb to higher altitudes more quickly and changes to allow daytime traffic departing Stansted airport to climb higher more quickly. High level changes, from 7,000ft, have also been implemented along the south coast affecting Bournemouth, Southampton and TAG Farnborough airports. This means fewer flights over land.

Planned consultation with the public on airspace change and Government policies including the treatment of noise, unprecedented public reaction to change in noise patterns and an impending government decision on runways in the south-east, now colour the landscape against which low-level altitude airspace change is set.

Public reaction over uncertainty about runway expansion, in particular, has fed into airports reconsidering the second phase of low level airspace changes proposed over London (LAMP2). These were scheduled for full implementation by 2019 but are now planned to take place after 2020 and by that time, we hope that aviation policy will be set.

# Making a real difference to airspace: Noise continued

## Testing, testing...

Aside from major airspace change, we've also been exploring more inventive ways to make incremental improvements through more efficient procedures but in ways which can be applied relatively swiftly and that don't have an impact on residents around airports.

On the approach to Birmingham International airport, following a trial we have implemented a more direct route which can be used during quiet periods, for example, Sunday evening or winter schedules. We know it won't have a knock-on to other routes and can only be used when it is "safe and appropriate" to do so.

The aircraft also start their descent higher. It does involve the controller working a little harder to interact with colleagues in other airspace sectors and the pilot but delivers more efficient routeing, shorter flight time, less noise and saves $CO_2$ emissions.

## Listen to our point of view on air traffic noise – Harri Howells, Head of Airspace Change Assurance

Environment impacts are a key consideration in all our airspace changes. Whenever NATS is asked to scope airspace change, we have to do so in line with something called Cap 725. This is guidance put in place by our regulator, the Civil Aviation Authority and the Department for Transport, which provides a transparent and formalised process for airspace change.

Harri Howells

Central to this is the requirement to involve people who may be affected by our plans. Over the last 10 years, we have seen the number of communities and stakeholders who want to have their say grow significantly. We think this is partly attributed to the advent of digital communications and social media. This makes it easier for all concerned to access information – and, sadly, some misinformation – and form opinions.

In the last year, we have attended scores of neighbourhood meetings to listen to residents' concerns over aircraft noise. An important aspect we want to highlight is that avoiding flights over one area invariably means flights over another. We therefore try to identify designs that provide the best balance in line with the consensus of opinion considering the views of all the affected communities.

To continue to facilitate demand efficiently, we need to redraw the airspace, but face real challenges in gaining consensus. For example, one regulatory recommendation is that flights ought to be directed over sparsely populated areas, which affects many of the rural communities we've been meeting this year. Finding the right balance means asking questions like: What are the impacts of streaming traffic at 4,000ft over 1,000 homes in the surrounding area, compared to 2,000ft over 500 homes? There are many such considerations to take into account at every stage of the airspace change process.

In the final analysis, tough decisions need to be taken, but not without everyone being given an opportunity to contribute.

## Responding to local airport stakeholders

We support a number of airport-led local community fora, including Gatwick, Heathrow, London City, Luton and Stansted airports as well as ad hoc support for many others. This year, NATS welcomed Gatwick airport's commissioning of an independent review of arrivals. We are now working collaboratively with a number of stakeholders, including the local air traffic control provider, to implement those recommendations which are under our control, once agreed by Gatwick airport. Read the independent review

# Making a real difference to airspace: Noise continued

## Turning down the volume on descent – Andrew Burke, Air Traffic Management Expert

Our customers, colleagues and other stakeholders in air traffic are familiar with some of the procedures we've put in place to reduce noise and aviation emissions for people living near airport flight paths. The principal method is continuous descent operations, a technique reducing $CO_2$ emissions, noise and fuel burn. A smooth continuous descent, instead of a series of steps, results in quieter, more fuel-efficient landings, but requires extra effort from pilots and air traffic controllers.

Andrew Burke

We have been able to support 15 airports across the UK and 22 airlines to make this more widespread.

NATS helped deliver an additional 31,639 quieter flights in 2015, which also saved 1,740 tonnes of $CO_2$ emissions. The best performing airports during 2015 were Heathrow, Gatwick and Bristol airports. Comparing the last two years of relevant data, there was an improvement in the number of flights meeting the continuous descent operations definition, partly due to traffic growth of 4.6 per cent. However, the relationship isn't a given; everyone has to work even harder to achieve continuous descent operations when traffic is busier and so the overall rate dropped slightly.

The overall continuous descent operation rate is also heavily influenced by a small number of high traffic airports, where minor fluctuations have a big impact on the score. We monitor the continuous descent operation performance of airports and airlines monthly and regularly engage with them to support their flight crews and operations managers.

But the initiative and the progress we made was little known outside of aviation so we set out to find a way for the environmental, social and health benefits could be recognised more widely and judged objectively. Plus, we carried this out in conjunction with the aviation industry's environment body, Sustainable Aviation, meaning a whole range of stakeholders took part. We subsequently won the "Engaging Customers on Sustainability" award from The Prince's Charity, Business in the Community (BITC) in 2015.

Business in the Community set up the Responsible Business Awards to support companies to work together to make a significant difference by taking action to improve their local communities, create more inclusive workplaces and tackle environmental challenges. NATS was delighted to be recognised for the work it has done on noise reduction and through its **Continuous Descent campaign**."

**31,639**

additional quieter flights in 2015, which also saved 1,740 tonnes of $CO_2$ emissions

| Year | Flight count | CDO flights | CDO rate % | Change in CDO rate | Additional CDO flights |
|---|---|---|---|---|---|
| 2013 | 920,981 | 713,578 | 77.5% | N/A | N/A |
| 2014 | 969,309 | 750,260 | 77.4% | -0.1% | 36,682 |
| 2015 | 1,015,719 | 781,899 | 77.0% | -0.4% | 31,639 |

# Making a real difference to airspace: ATM related $CO_2$ emissions

Working directly with our airline customers through the Flight Efficiency Partnership, NATS has delivered incremental adjustments to improve the efficiency of certain operational procedures. Together with tactical improvements, these helped save 34,195 tonnes of $CO_2$ emissions last year. The combined annual savings since 2008 total 1.1 million tonnes of $CO_2$ emissions per annum, equating to £111m in enabled airline fuel savings.[1] The improvement, while significant, is still relatively small in the context of our overall ambition to reduce our climate change impact and improve our environmental performance **(see page 32)**. Some of the planned projects we expect to deliver further $CO_2$ emission reductions, in the years ahead, are outlined on the next page.

**34,195**

tonnes of ATM related $CO_2$ emissions saved last year for airlines, worth £3.4m in fuel costs*

## Modernising airspace – Juliet Kennedy, Operations Director

For the past two years, air traffic has been steadily recovering from the effects of the 2008 financial downturn, and 2016 looks likely to be the busiest on record at the UK's airports.

Finding ways to safely squeeze additional movements out of limited runway and airspace capacity is part of NATS' job in helping our airline and airport customers deliver the schedules they want to run.

However, we now need more fundamental change to modernise our airspace if we are to be able to continue supporting the sustainable growth of the industry in a manner that will also deliver benefits in terms of lower emissions and less aircraft noise.

Aircraft holds, where traffic queues to land during an airport's busiest hours, are often cited as a contributory cause to emissions and increased noise. It may seem counter-intuitive but they are, in fact, the most efficient way to deal with aircraft queuing to land.

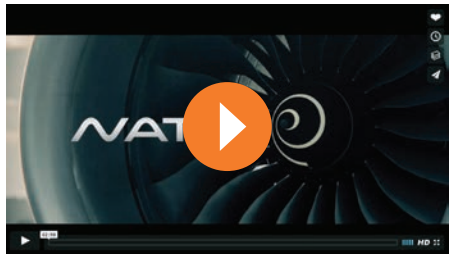
It will be many years before aircraft can arrive at an airport right on time, and weather always plays an important part in that, so efficient operations mean we need a "pool" of aircraft to ensure that runways are fully utilised.

Satellite technology means aircraft can now follow routes very accurately and we are looking to maximise the benefits this can deliver at all stages of flight. On approach, one such innovation is using linear holding rather than conventional vertical 'stacks', keeping all arriving aircraft at the same level, but separated horizontally by SatNav tracks.

The big difference is that because of this navigational accuracy, linear holding can be further away and much higher than a traditional stack and is, therefore, quieter for people living underneath and more fuel efficient for the airlines.

The first such linear holding initiative in the UK was introduced earlier this year, with the implementation of a point merge hold for arrivals into London City airport. Instead of flying over land, arrivals now join the point merge arc over the North Sea before being lined up for a continuous descent approach over the Thames estuary, into the airport.

It's just one example of the benefits we can deliver by modernising the structure of UK airspace. We need to act now to ensure an entire network fit for the expectations of the 21st century.



Juliet Kennedy

[1] using an average fuel price of £315 per tonne for FY2015-16

# Making a real difference to airspace: ATM related $CO_2$ emissions continued

## Traditional vertical holding stack

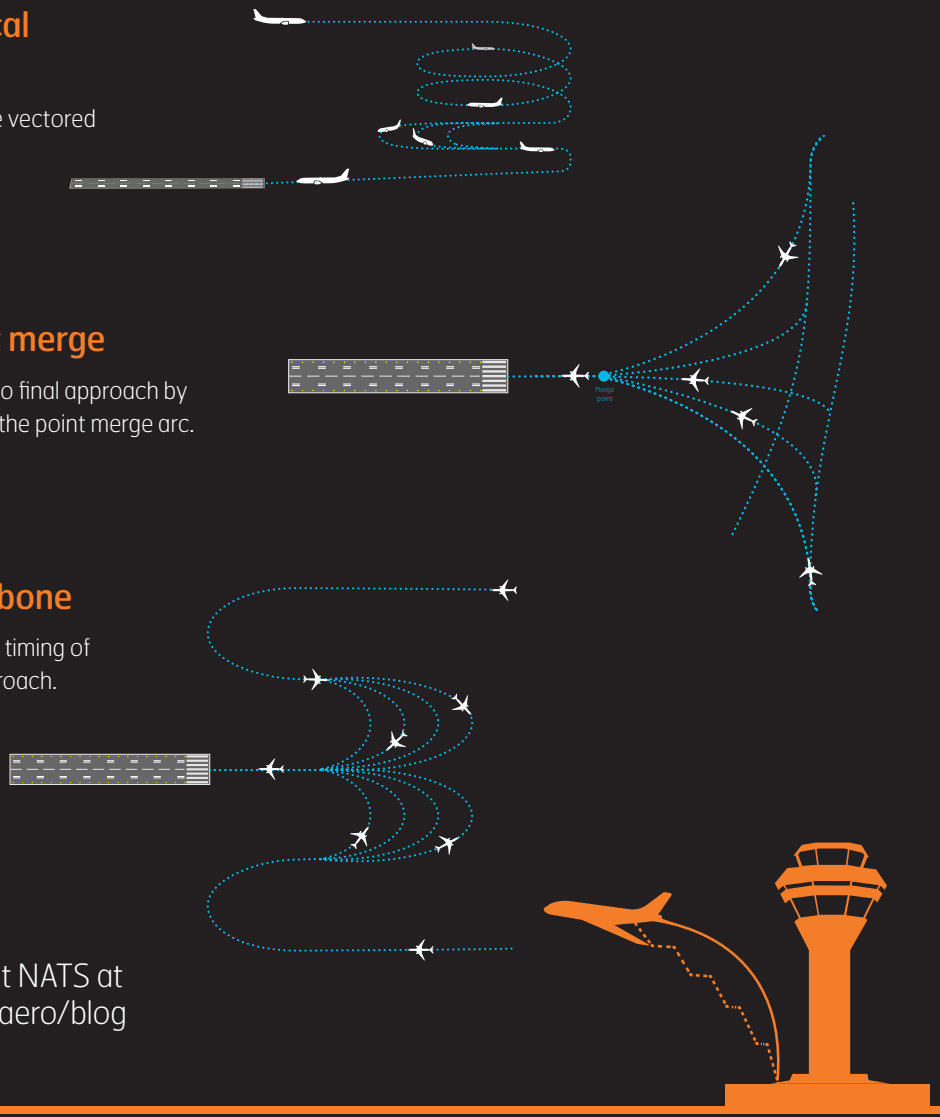
Aircraft spiral down before vectored into final approach.

## Linear hold point merge

Aircraft are sequenced into final approach by deciding when they leave the point merge arc.

## Linear hold trombone

Aircraft sequenced by the timing of the turn into the final approach.



Find out more about NATS at nats.aero and nats.aero/blog

## Flight of the possible

NATS worked with 30 aviation organisations, including civil aviation authorities, airports, ground service providers and air navigation providers, to help Etihad Airways perform their most fuel-efficient 'Perfect Flight': a Boeing 787 Dreamliner from Abu Dhabi to Washington DC and back. The 11,000km flight, which took 13.5 hours, saved the airline an estimated 10.7 tonnes of $CO_2$ emissions and eight minutes flying time, compared to the normal flight plan.

## View from the cockpit

Each year we undertake a formal airline customer survey and in 2015 we achieved our highest-ever customer satisfaction score, up to 8.45 out of 10 (from 8.43 in 2014). After safety, airlines' priority for NATS was fuel savings and flight efficiency.

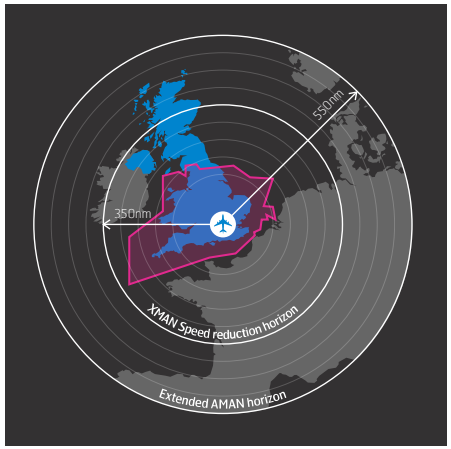
As part of our continuing service to airlines, we listen to their pilots and flight planners to identify and iron out minor inefficiencies in our routes. We have set ourselves an annual objective to save 10,000 tonnes of $CO_2$ emissions from small scale changes and have always achieved it through making pragmatic improvements. A close working relationship with the airlines and their intimate knowledge of our network leads to useful conversations. Making relatively small adjustments adds up to worthwhile improvements in terms of efficient routing, fuel burn and $CO_2$ emissions.

# Making a real difference to airspace: ATM related $CO_2$ emissions

## Air Traffic Control across borders

Arrivals management and time-based separation are two notable innovations which have improved efficiency over the past year. Our collaboration with fellow air navigation service providers on Cross Border Arrival Management (XMAN) has continued to streamline the flow of aircraft into Heathrow airport. Working with controllers in France, the Netherlands and Ireland, aircraft can be slowed before they near UK airspace.

What began as a trial has been so successful that it entered permanent operational service last October. This procedure can now begin 350 nautical miles from London. Previously, controllers could only influence the speed of an aircraft once it was in the NATS network, only 80 nautical miles from the airport, limiting the ability to manage inbound traffic flows.




Heathrow airport operates at 98 per cent capacity and relies on holding stacks to ensure the runways are used as efficiently as possible. XMAN cut by up to a minute the time spent holding, saving $CO_2$ emissions and reducing noise for nearby communities. Co-ordinating with other air navigation service providers to manage aircraft speed across each stage of their journey – slowing or accelerating depending on the type of delay - will ultimately deliver significant efficiency improvements.

XMAN is a key concept of the Single European Sky initiative, which will require 24 airports across Europe to deploy XMAN procedures by 2024, ensuring the benefits are felt more widely. And in the UK case more quickly, as NATS was the first to implement it.
Read more

## Time-based separation

Time-based separation provides controllers with a new way of separating arriving aircraft at Heathrow airport in strong wind conditions. The system takes live wind data from the aircraft to dynamically calculate the optimal safe spacing between each aircraft in order to maintain the landing rate. By doing so, the reduced approach separation recovers most of the lost capacity from headwinds. On 24th March 2014 British Airways flight BAW14GM was the first aircraft in the world to be separated by time-based rules. This year we marked the system's first anniversary.

# Making a real difference to airspace: ATM related $CO_2$ emissions

## Green light for free-routing flights

Our part in the effort to create a single area of high altitude free route airspace covering nine northern European countries, known as the Borealis Alliance, by 2021 was recognised by the European Commission in its first-ever Single European Sky Awards ceremony.

The Free Route Airspace will extend from the eastern boundary of the North Atlantic to the western boundary of Russian airspace in northern Europe. In the UK, our Prestwick control centre will implement free route airspace effective from 25,500ft in 2017 and our Swanwick control centre will implement it from 33,500ft in 2021. This will enable airspace users to plan and take the most cost-effective, fuel-efficient and timely routes across the entire airspace managed by Borealis members rather than following pre-defined routes within each member country's airspace, saving time, money and fuel. This will provide significant savings in fuel and $CO_2$ emissions to customers.

We took our first step towards free route airspace with direct route airspace in portions of Scottish airspace last year and we'll be introducing free route airspace itself into areas of Scottish airspace before extending more widely across the UK.

## Community Affairs – Jane Johnston, Head of Corporate Affairs

The skies above Britain are some of the busiest in the world. This presents NATS with a big challenge, ensuring the safety of the millions of passengers on board the aircraft, achieving efficient operations, and considering not only the global environment but also the millions more people who live below the flight paths that criss-cross our skies.

An island economy needs really good air links to connect to markets across the globe. Modernising our congested airspace is, therefore, critical. But change is generally viewed with suspicion; and people expect changes to airspace will mean more aircraft, more noise, more pollution and more disruption. Recent trials of new aircraft procedures, and some new procedures that have affected communities in ways we simply didn't expect, mean people don't trust us to be honest with them. Complaints have increased and many new local noise action groups are now working to stop any change at all.

While change could actually address many of the worst problems, we have a big job to persuade people of that. Airspace is a complex technical subject and we want communities to understand better how it works, and work with them to find the best way of making improvements. There are no absolute solutions, and there will, no doubt, be compromises along the way, but we are genuine in our desire to build a consensus on how we can modernise airspace, and we're now dedicating additional resource to boost our community relations efforts.

Jane Johnston

# Making a real difference to airspace: Airspace efficiency (3Di)

In 2012, NATS and the CAA agreed a methodology for measuring airspace efficiency, called three dimensional efficiency (or 3Di). This helps us assess day-to-day progress towards ATM-related $CO_2$ emissions reduction. The 2015 average 3Di score was 30.1, just behind the target of 29.7 and within the service performance range set by the regulator. We continue to identify and target improvements in airspace efficiency. The metric has been recognised by BITC, winning the Sustainable Products and Services Award in 2014, and reaccredited in 2015.


## Helping out with hotspots – Sarah White, Sector Controller AC and Swanwick lead on 3Di

Hotspots are areas within the UK's air navigation network which, while safe, don't work as efficiently as they could.

Sarah White

They are also something that can be fixed in a relatively straightforward way. That is, there's no need for a formal airspace change process. If the workaround is safe and validated, then we can go ahead.

This means that we can make tactical improvements. Nothing in air traffic control is "back-of-an-envelope" so hotspots have to be identified, the solution simulated and tested and put into practice.

Working in Area Control at Swanwick means liaising with colleagues in multiple sectors. Decades of experience leads to a wealth of knowledge about how we might do things better. Encouraging people to make suggestions and taking those ideas forward is one way to do that.

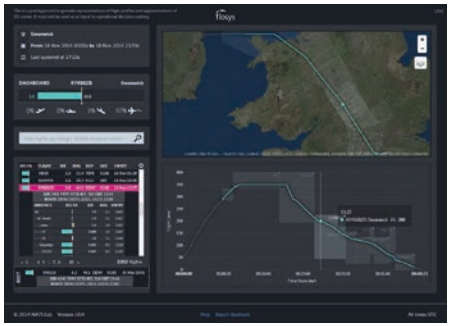
For example, traffic in-bound to Bristol airport from the south east (France and beyond) drops early to 28,000ft, which creates space for climbing, outbound traffic from Birmingham, East Midlands and Bristol airports that exits UK airspace via Dover waypoint. Approaching aircraft remain below the upper sector, for traffic overflying the London area. However, if traffic positioning allows, we can bring the Bristol airport in-bound in at 30,000ft, which means it remains 2,000ft higher for some 40-50 nautical miles. During quieter periods, e.g. winter and at night, these aircraft may well remain at their cruise levels until their top of descent, ensuring an optimal flight profile and reduced $CO_2$ emissions.

Former Area Control room at Swanwick

# Making a real difference to airspace:
# Airspace efficiency (3Di) continued

## Flosys

We've developed a software tool called Flosys. Controllers on a break can get a snapshot of fuel and flight time they have just helped to save. It's another way of making a difference. Saving emissions also means saving fuel. Anything we can do to help our customers is good for their business and ours.



## I have control / you have control

There are a number of factors to take into account when reviewing our 3Di performance, including many over which, we don't control, for example airport operations and airline scheduling. We experience peaks and troughs in the number of flights wanting to land at the same time, which results in holding and delay. Take the February half-term, where we see a sharp demand in flights to ski resorts and the summer holidays.

Developing tools like XMAN arrival manager and time-based separation to smooth arrival sequencing and make landing in high wind more efficient, helps our customers to keep delay to a minimum because we are managing airspace more effectively.

In 2016, our 3Di target will be even more challenging, reducing from 29.7 to 29.3. We're the only air navigation services provider to be measured in a way that incentivises real benefits to customers in terms of efficiency and the environment, two factors which are closely interlinked.


# Making a real difference on our estate

**2,552**

family homes could be powered a year from the energy savings made on our estate

**100%**

renewable electricity on our primary electricity contract

**18**

18 Olympic swimming pools could be filled with the water we have saved

## Certified Environmental Management System

As a responsible member of the aviation industry, we are committed to playing our part in limiting and, where possible, reducing the environmental impact of our operations, while still delivering positive social and economic outcomes to society as a whole.

Our long-term success as a company is dependent on us achieving environmental improvements in parallel with our other business targets. We work with regulators and others in the aviation industry to encourage collaboration and deliver new innovative solutions to the environmental challenges we face as an industry.

Part of this commitment is the environmental management system in place to control our impact on the environment. The ISO14001 standard has been certified for our Corporate and Technical Centre. In 2016 we will see the system develop broader coverage across the company.

We continue to engage and support our staff to help reduce NATS' environmental impact. Last year building on our new induction video for new employees, we launched a waste awareness campaign and plan to do more again this year.

# Making a real difference on our estate continued

## Controlling the power – Jim Gibb, Head of Systems and Energy

Since our baseline year of 2006, we've reduced energy consumption by more than a third – an achievement we're really proud of in our drive to reduce the impact we have on the environment.

As a 24 hour, 365 days a year safety critical business, with over 200 sites owned or managed by NATS, this has not always been easy. Every decision has to be based on guaranteeing a power supply and the potential cost against the benefits.

We've seen extraordinary reductions from a broad range of initiatives – including the installation of more efficient lighting, improving the way we heat and cool our buildings and the introduction of renewable power generation solutions. Compared to 2006, we're saving enough energy to power 2,552 family homes a year.

We've introduced smarter ways to manage our energy use. We continue to build on the savings made from replacing two of our four main chiller units at Swanwick, which has seen a 20 per cent saving in power to keep the carefully controlled temperatures within the building suitable for both our people and technical systems – and saving around £270,000 a year.

We're also in the process of moving to a new energy and utility management system. This means our facilities management teams can have better access to information showing the power we use. For example, the system can compare energy consumption between similar sites and help us identify where we could further improve our energy efficiency.

In other areas, we've installed photovoltaic panels at radar stations in Claxby in Suffolk, Debden in Essex and Daventry in Northamptonshire. This technology supplements the power used in the summer months and in the case of the latter two has reduced electricity grid consumption by 12 per cent and 20 per cent respectively.

Our water consumption crept up last year due to a closure of an office near Heathrow airport where water had been included in the service charge. Staff relocated to our head office and metered water consumption rose slightly as expected. Overall water consumption is still down 47 per cent from a 2006 baseline, enough to fill 18 Olympic swimming pools.

Our waste and refrigerant gas policy is currently managed as part of our Environmental Management System. As the system is rolled out to more sites, we will be improving our data collection, management and reporting processes and will include this information in future.

NATS is part of the government's Carbon Reduction Commitment Energy Efficiency Scheme and the Energy Savings Opportunity Scheme. Swanwick air traffic control centre is also part of the EU Emissions Trading System.

Jim Gibb

# Making a real difference on our estate continued

## Partners in the airport environment – Mike Stoller, Director Airports

Our principal objective is to support our airport customers in meeting their future operational and environmental goals. We do this through the expertise of our people providing tower control services day-in-day-out, by collaborating with airport partners and deploying innovative technological and engineering solutions.

We're at the centre of collaborative decision making at Heathrow airport; sharing data to help every aspect of the airport operation run more smoothly; from reducing aircraft taxi times to smart stand allocation, and ensuring baggage is quickly and efficiently processed. Here, joined-up thinking has become an integrated process to help even more efficient operations.

Mike Stoller

Time-based separation (see detail elsewhere in this report) developed with Lockheed Martin and Heathrow airport, enables more efficient landing sequencing and less chance of cancellations during high winds, but also supporting reductions in airborne holding. Together with our partners, we want to explore how advanced technology could further help airports build greater resilience.

Over the past year NATS has also supported trials of steeper approach glide paths and segmented steeper approaches, which seek to deliver aircraft noise reductions by keeping aircraft higher over the ground on their approach to an airfield. We have also continued to lead a campaign on behalf of Sustainable Aviation to improve continuous descent operations across the UK.

Looking forward, our biggest challenge will be to strike a balance between minimising community noise impact, maximising capacity and fuel burn reduction, all while ensuring safety standards are never compromised. As an industry we recognise the importance in delivering efficient operations and set against a backdrop of future growth we will look for ways to do so sustainably. Supporting this, over the next two years we will be implementing NATS environmental management system across our airports. As well as a clear focus on airspace impacts, this will look at how we're managing our buildings and infrastructure; including energy, water, waste, recycling and travel. Doing so not only protects the environment but also delivers business and cost efficiencies for our partners and NATS.

## How's your ballcock? – Charlie Doherty, Facilities Management Engineer

When engineer Charlie Doherty moved to Glasgow Airport Tower, he thought he might have a leak, or that the controllers drank a lot of tea and coffee. After some investigation he realised that the older wall mounted toilet cisterns had a problem; their ballcocks needed adjustment. Over time they became misaligned allowing the water to run out the overflow pipe. By fixing all the ballcocks and lowering them in the cisterns to use less water per flush, as well as installing automatic urinal controls, he simply and cheaply reduced water consumption in the tower building by 78 per cent in one year.

# Making a real difference on our estate continued

## Great Lakes: Swanwick nature reserve celebrated – David Rumble, Hampshire & Isle of Wight Wildlife Trust

More than 4,000 people a year visit Swanwick Lakes Nature Reserve. That's partly the reason the beauty spot next to our Swanwick control centre in Hampshire has been re-accredited with the Biodiversity Benchmark for its second year.

The benchmark is awarded to companies who carry out valuable work to protect and enhance natural habitats and the environment on their estate.

In the case of the lakes, this means that the clay pits left behind by the Victorian brickworks are now home to flourishing wetland wildlife and plants such as greater-crested newts and 12 species of dragonfly.

The lakes are managed on our behalf by Hampshire & Isle of Wight Wildlife Trust. The trust's strategy lead for policy and advocacy, David Rumble, said work was now continuing on nurturing the area to a wood pasture.

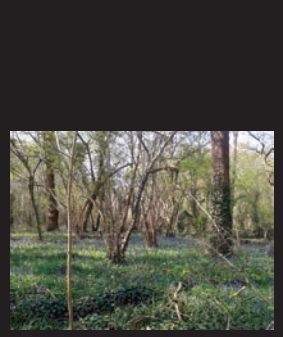
This type of woodland harks back to the days when The Forest of Bere covered much of southern Hampshire in King John's time but was depleted over the centuries by timber used for house-building, ship-building and fuel.

"This is our long-term aspiration for this area. It's open to everyone and they can get a feel for what this mixed deciduous woodland would have looked like in earlier times," he said.

For more, go to the reserve website.

Hampshire & Isle of Wight Wildlife Trust

David Rumble



Part of the NATS environment team tree-hugging at the reserve in 2015

# Making a real difference on our estate continued

## Turning out fine: making wind farms radar-friendly

The knowledge and expertise of our teams have taken the company in unexpected directions.

Rapid growth in renewable energy in the form of wind farms in the UK means we need to be consulted by law to assess their impact on air traffic control radar. Last year, this led to us mitigating interference from wind farms at Frodsham in Cheshire and Tormywheel near Edinburgh.

We proposed a solution which protected radar systems at Chester Hawarden and Liverpool John Lennon airports from "clutter" caused by 19 spinning turbines. This can often be mistaken for aircraft on a controller's screen or, indeed, mask the actual presence of an aeroplane.

In Scotland, we were able to put in place a similar fix to enable developers to move ahead with a wind farm in time to meet a government funding deadline. Our engineers installed turbine-resilient radar and processing software which edits out wind turbine returns on the screen. Safe and effective radar coverage is still maintained with even small aircraft detected 40 miles away.

Previously, siting wind farms behind a hill so they would not affect radar was one answer. We believe that, in the case of Frodsham, this is the first turbine-resilient radar which does not require this so-called "terrain-shielding". In the case of Tormywheel, our intervention will support Edinburgh airport and we will manage the turbine-resilient radar for 25 years.

Muirhall Energy Managing Director Chris Walker said: "Reaching agreement with NATS will not only allows our company to deliver the wind farm but potentially allows other wind projects in the central Scotland to be realised."

## NATS' plans for climate change adaptation

We are very aware of the risks from climate change to our operation. Potentially, these include direct and indirect risks which could affect our infrastructure resilience and business services, as well as broader risks to our supply chain, employee well-being and emergency planning.

We have commissioned research on the potential impacts of climate change for our business and the impact of climate change on UK traffic patterns. As a result, we have prepared a climate change adaptation strategy. This report sets out NATS' response to climate change, which focuses on asset management, and uses our existing risk management system to identify and develop contingency plans and review climate change risks. In addition, the severity of impact on customers, finances and reputation was estimated, based on a risk matrix, which led to potential issues to be dealt with to be prioritised.

The impact on NATS' operation from climate change is likely to originate from variables that are important for aircraft routing, e.g. the North Atlantic jet stream, severe convection and thunderstorm activity. The risk from climate change is that the frequency and severity of these occurrences increases beyond the norm and our resilience to respond is reduced.

In 2011, the CAA, nine UK airports and NATS reported to DEFRA on our respective adaptation plans, in response to a request from the Secretary of State. In 2016, we will begin the process of reviewing our adaptation strategy and will work with other aviation stakeholders to reassess the risks and challenges to our business and operation.

# Making a real difference on our estate continued

## Questions that can lead to sustainable answers

Keen to understand what staff think of their working environment and facilities, we repeated the Leesman survey to assess how effective workspaces are. We are gathering the responses on improving efficiency and sustainability and look forward to exploring some of the ideas and suggestions raised. One initiative so far has been to provide free fruit at our head office, Prestwick and Swanwick control centre canteens.


## Safe, clean and quieter journeys – Sophie Martin, Category Specialist, Supply Chain

NATS' employees made 10,000 trips to 57 countries over the last year. Company policy ensures they book travel – flights, trains, car – and accommodation through our centralised travel provider.

Not only does this enable us to closely monitor travel costs and ensure we save money by accessing preferential deals, it also has a further, important dimension. Within minutes of the Brussels bombing taking place earlier this year, our security team knew exactly who of our colleagues were in Belgium, where they were and that they were safe. As well as abiding by the principle of lowest logical cost, this ensures we have clear visibility of where our people are at any one time. In a global business, we believe that's vital.

We have also implemented a scheme which enables our staff to benefit from well-priced and lower emission cars through a salary sacrifice scheme. Our aim is that these cars are better for the environment because of their low $CO_2$ emissions per km and also keenly priced because of government environmental policy. Despite well publicised news stories around car companies exaggerating $CO_2$ emission levels, it is becoming clear that newer models are driving down emission levels to 100g of $CO_2$ per km so we're exploring how we can take advantage of these cleaner, more cost effective improvements.

More people are joining our salary-sacrifice scheme to take advantage of deals on electric and hybrid cars. Ten per cent of our staff now have a low emissions car from a scheme we set up with Zenith, including 24 electric vehicles. Zenith tells us the NATS scheme is one of the most successful in the country. Last year, we installed 18 electric vehicle charging points at our three main sites and with the majority of our electricity coming from a renewable tariff, we're able to keep fossil fuel usage to a minimum.


Sophie Martin

# Making a real difference on our estate continued

## Employee commuting and business travel

Other initiatives to minimise our travel impact include partnering with **liftshare** to support car sharing across our business and providing reserved car sharing spaces, interest-free season tickets, motorbike loans and a subsidised shuttle bus from Southampton Airport Parkway train station to our Swanwick control centre and our head office. We also have pool bicycles available for travel between our Swanwick control centre and our head office, while our Prestwick control centre is one mile from Prestwick Town train station.

NATS' own fleet average $CO_2$ emissions rate is higher than the UK average new car rate. However, our existing fleet includes a number of specialist vehicles and 4x4s required for access to remote sites. We continue to prioritise low emission vehicles to bring down the overall fleet average rate.

Last year our staff flew the equivalent of 4,700 times around the Earth. Staff are encouraged to use teleconference facilities, including video conferencing suites at our main sites wherever possible. Domestic and Eurostar train travel amounted to the equivalent of travelling between Thurso and Penzance 215 times.


## On your bike

We continue to support our employees in reducing our indirect $CO_2$ emissions though a number of sustainable travel initiatives, including 184 new bikes on our Cyclescheme last year. We have also launched a cycling proficiency sponsorship initiative to help children learn how to cycle safely. Schools situated in the local communities near our main sites in Hampshire and Ayrshire were encouraged to apply for cycle proficiency lessons at their schools.

# Making a real difference in communities where we operate

**£31,000**
donated to charity from NATS' Footprint Fund

**£140,000**
raised by 8% of staff from payroll charitable giving

## Deeper Footprint Fund

Now in its eighth year, the Footprint Fund is the central focus for charitable giving and requests and has continued to support local charities and make a long lasting difference to communities in which we work. This year we awarded 39 successful applications with £31,000 (and £220,000 to date) donated to sports clubs, medical care support groups, community interest clubs, environmental protection and animal welfare charities as well as donating £4,500 in matched funding for sponsored events for national charities such as Help for Heroes, Marie Curie, Teenage Cancer Trust, MacMillan, Barnardo's and the British Heart Foundation. In addition, we continue to support the Aerobility charity.

This year, eight per cent of our employees gave regularly to charity through the NATS payroll Give As You Earn Scheme, donating £140,000 to a range of causes.

A team from NATS Information Solutions pedalled 500 miles in five days to help charities. They cycled from Swanwick to the Prestwick Centre, to raise £6,000 for the NATS nominated charities – £2,000 for each the British Heart Foundation, Ayrshire Hospice and the Fareham Food Bank.


‹ Lock's Heath Pumas bus sponsored by NATS

# Making a real difference in communities where we operate continued

## Charity flights and family days

Dreamflight offers young children, many who suffer from terminal illnesses, the once-in-a-lifetime chance to travel to Florida. NATS' partnership with Dreamflight, now in its fourth year, means we waive air traffic control fees for the flights and give the flights special treatment, allowing them to fly at lower altitude and offering route flexibility to help them avoid areas of turbulence.

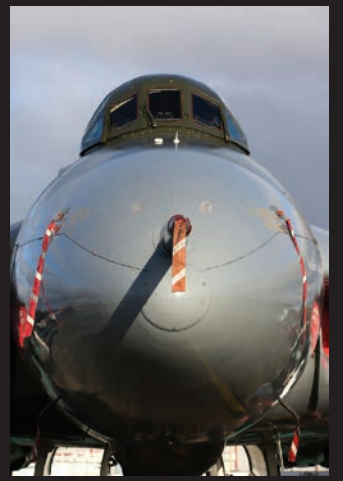
NATS was delighted to support a number of Family Day events in conjunction with British Airways, easyJet, Heathrow airport and Virgin Atlantic last year. The local organisers invite their employees and family members along and we bring our road show for them to test their skills at air traffic control, **watch our airspace visualisations** and play our popular games, including the Continuous Descent Approach challenge - with the aim of making a paper plane and throw it through four hoops, set up to represent a perfect three degree approach.

## Pitch-perfect: Prestwick push for community football ground

Prestwick centre staff have been helping their local football club in its bid for an all-weather playing area. We are supporting Glenburn Miners' Club effort to build a 3G all-weather pitch on three acres next to the centre, which was built over what was the coal mine. With more than 500 youngsters on its books, it is hoped that the land will attract matched funding to be able to lay a new playing surface and refurbish a disused annexe as changing rooms.

> "We think it's a great way to contribute to the club. We are also raising funds for the children in conjunction with charities and organisations like the local chamber of commerce."

Jim Nelmes
NATS Business Manager



# Making a real difference in communities where we operate continued

## I know, I'll put on an air show – Bob Alexander, Head of Projects Coordination

For most of us, making the most of our spare time involves a spot of DIY, pottering in the shed or getting under your family's feet. For Bob Alexander, it involved creating what has become Scotland's largest single day outdoor event – from a blank piece of paper.

Bob, who is head of projects co-ordination at Prestwick, had the idea when the annual display at RAF Leuchars came to an end. He wanted to do something to revitalise the economy in the local area and to showcase opportunities for young people to seek careers in science, technology, engineering and mathematics (STEM).

Following two years of organising the air show with the help of 130 volunteers, he's handed on the baton. Last year, he estimates £5m was spent locally after 120,000 watched the displays for free. On Sunday, people pay a small fee to see the aircraft on the ground and visit the STEM-themed stalls.

"I wanted to re-kindle my youth and I remembered my dad taking me to air shows. That's where it started. I thought it would also boost the local economy. All involved have been very supportive, from volunteers to the pilots and teams making the flights. Everybody plays their part," said Bob.

He added that last year's event also included a contribution from Donald Trump, who lent the show his personal helicopter.

"It's a great way to encourage young people to pursue STEM subjects and careers. When they see how it comes together at an air show, it leaves a lasting impression," added Bob, a fellow of the Institute of Engineering and Technology.

Bob Alexander

## Running the (air) show

Airport tower controllers from across NATS again helped to ensure the displays at the Royal International Air Tattoo went ahead safely this year.

Controllers from Manchester, Gatwick, Southampton, Stansted, Heathrow and Gatwick airports gave up their time to staff the event, held every year at RAF Fairford in Gloucestershire. Money raised goes to the Royal Airforce Charitable Trust and crowds of up to 160,000 are on hand to watch the displays.

"I have been involved with ATC at the event for the last 27 years. It's just very satisfying. We're a small part of the 2,000 volunteers making sure everything happens as it should. We're delighted we can continue to contribute to this important – and enjoyable – fundraising event."

Ian Revell
Manchester Airport Watch Manager

# Making a real difference in communities where we operate continued

## New horizons for the next generation – Paula Gibson, Head of Technical Training

At the suggestion of one of our employees with children at the school, we formed a relationship with **Bay House secondary school in Gosport.**

Our aim was simple: to encourage the students to understand the range of education and career possibilities open to them, using NATS as an example.

Paula Gibson

Over the course of the year, 30 students organised themselves into five teams to work on a range of projects, including developing an environment app for NATS. We also took them through coaching sessions, such as how to manage and organise finance in a corporate context. This fits in to the work we do with other schools across the area to organise visits to tell them about life at NATS and air traffic control.

By the end of the year, we want the children to have made the case for a grant of £6,000 to help fund the school's educational activities.

Head of Technical Training Paula Gibson, who has been managing the project, said: "Seeing the children form teams, scope the project and get a real insight into the corporate world – and the opportunities on offer – is really rewarding. You can see some of them considering their career options, thinking: why not me? Because they've been able to experience it."

> "Normally pupils from Year 9 do not have opportunities to go out and work in a business environment so this has given them an extremely valuable insight into working with a leading international company and gaining some valuable experience of the world of work. They have developed skills not normally learnt in the classroom such as collaborating, team work, problem solving and project managing which has really pushed them out of their comfort zones."

Simon Hall
Director of Global Learning, Bay House secondary school

Bay House
School & Sixth Form

# Making a real difference in communities where we operate continued

## Raising funds for Ayrshire Hospice – Caren Adams (Manager Resource)

Most people at our Prestwick centre know someone who has had a connection with the Ayrshire Hospice. Set up to care for people with life-limiting illness, it offers invaluable support to families in the region.

Prestwick's Caren Adams found herself more involved when a colleague, whose husband was on the hospice board, suggested closer ties. A resource manager, she was surprised to discover that the cost of running the hospice for just one day was £18,500 with £6,000 coming from the Scottish government but the remaining £12,500 raised by charities.

"We set up a challenge in June, calling it: Fund the Hospice for a Day. We all got involved and raised more than £42,000, which was wonderful. It was great to see everyone playing their part, said Caren.

"We all wanted to keep doing a bit more – and raised a lot more than we thought. Everyone at the hospice does a great job and it was satisfying to be able to do our bit to help."

She added that the centre had formed a partnership to support the hospice over the next three years and had already advised the charity on project management as it attempts to build a new home.

"From bag-packing to charity bike-rides, we've been glad to support an institution that has cared for so many families from our local communities."


C Watch Arran Cycle Ride

## Engineering a career in air traffic control

Engineers play a critical role with us. From day-to-day responsibilities to delivering new innovations and improvements, engineering across the spectrum is a company-critical skill.

NATS teams who recruit engineers took part in three university careers fairs and seven others at colleges and schools last year and a STEM (science, technology, engineering and mathematics) Big Bang exhibition in Southampton, attended by 1,000 students.

Each year around 1,000 people apply for one of our direct entry graduate, apprenticeship or industrial placement positions, and around 50 are successful. Around 80 per cent of these are in engineering roles and many of the successful applicants go on to careers with us.

For more, check out our website.

NATS has separately announced it is to sponsor the development of a new University Technology College (UTC) in Portsmouth. The government-funded school for 14-19 year-olds will specialise in technical education alongside general education. Led by the University of Portsmouth, the Royal Navy and Portsmouth City Council, the UTC will open in September 2017. It will specialise in electrical and mechanical engineering, and advanced manufacturing.


Read more here

# Making a real difference in communities where we operate continued

## Blue skies research

We work with a number of organisations on research into issues of interest to us and our stakeholders, e.g. noise, $CO_2$ emissions, safety, human factors, capacity, etc. NATS is part of a large international European research project called **SESAR** Joint Undertaking, as well working with CANSO members and others through the International Civil Aviation Organization, nationally with Sustainable Aviation on a project called ACCLAIM and with individual partners including the University of Reading, Manchester Metropolitan University and others. The outcome of this research often benefits a wider audience. Our research and development supports scientific understanding, public awareness, policymaking and sharing best practice across the aviation industry.

## Drone training

The recreational and commercial use of small drones in the UK is on the rise. These small drones, or Remotely Piloted Aircraft Systems as they are formally known, are highly capable aircraft that give their operators immediate access to the skies and a chance to experience a different and unique perspective of the environment around them.

There has been an increase in the number of incidents involving Remotely Piloted Aircraft Systems, including reports of them being flown in the vicinity of airfields, or at altitudes with commercial aircraft. We believe we have a role to play in education and awareness for these pilots and are keen to minimise risk to all airspace users. That's why we have established a CAA approved training course for Remotely Piloted Aircraft Systems pilots, to help them gain the knowledge and skills required for safe flight. **Click here** for more information.

SESAR JOINT UNDERTAKING

# Making a real difference as a responsible business

## Governance

Our Chief Executive has responsibility for the company's environment policy, which is underpinned by an ISO14001 certified Environmental Management System (EMS). The policy's governance is set and monitored by a Steering group, reporting in to the Executive team and is available on our website. Meeting quarterly, the steering group is responsible for environmental management, policy, planning, audit and review.


## Supply chain award for transatlantic project

Our supply chain team along with project and operational teams scooped a national award for our procurement work in an international air traffic management project that saw the introduction of a new system to help air traffic controllers who control flights over the North Atlantic Ocean.

The new technology included a set of controller tools to provide more efficient flight profiles which has enabled a reduction in fuel burn for aircraft flying transatlantic routes as well as delivering improvements to safety and service.

Delivered in partnership with Canada's air navigation service provider, NAV CANADA, the project was awarded 'International Procurement Project of the Year' by the Chartered Institute of Purchasing and Supply in November.

NAV CANADA Engineering Vice-President Kim Troutman said: "We value the strong partnership between air navigation service providers on both sides of the North Atlantic and believe it has benefitted our mutual customers through reduced costs and by enabling us jointly to make enhancements to our oceanic services."

## Procurement ethos mirrors good corporate citizenship

We rely heavily on our suppliers across the business from manufacturers of operational equipment and software to data and facilities services providers.

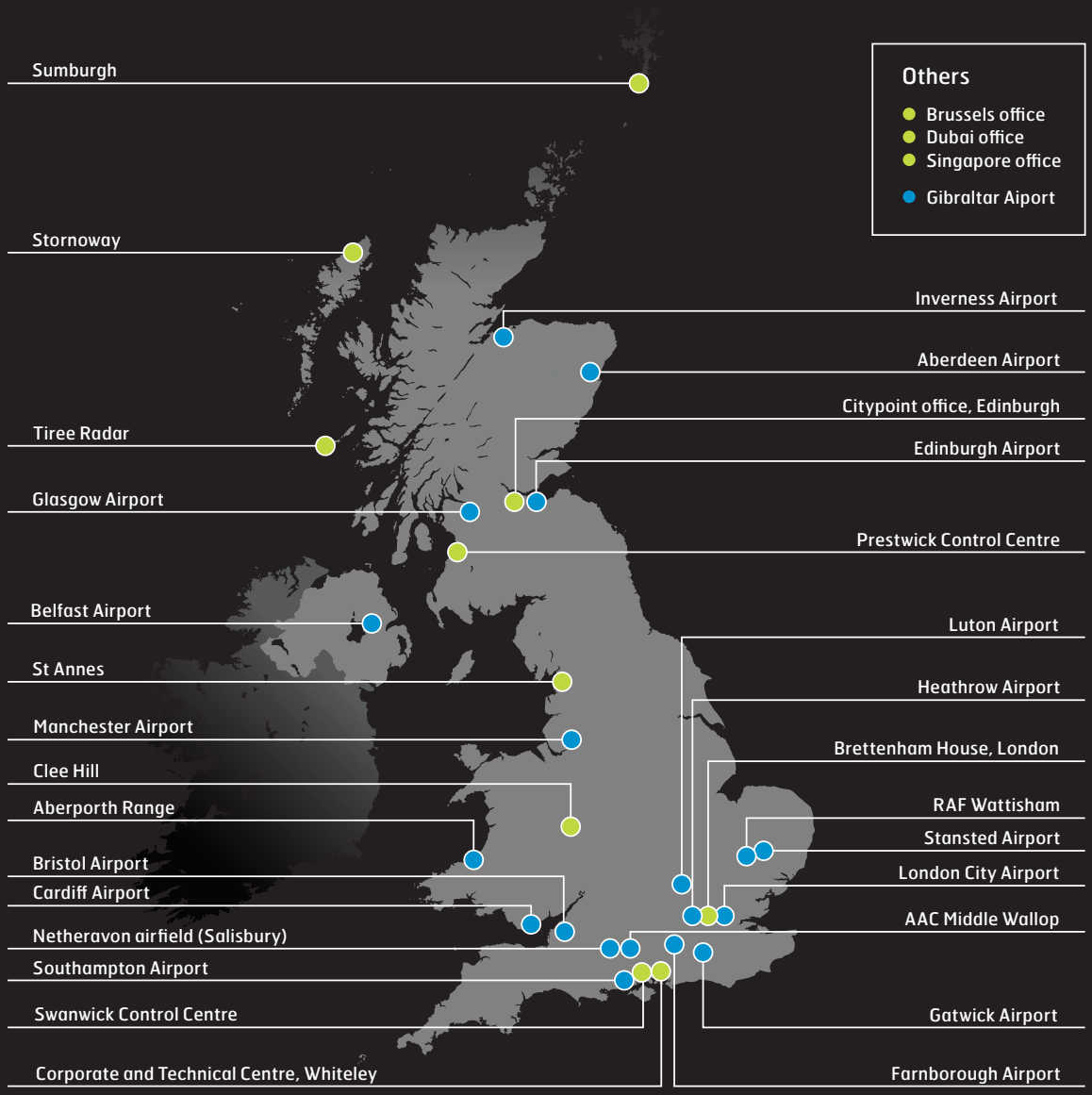
To manage the risk within our supply chain and to ensure that our suppliers meet the same responsible business standards we set ourselves, we have introduced a new approach to supplier due-diligence.

Flexible to the size of supplier, and taking into account the criticality of what they provide us, our revised approach provides us assurance that supplier policies on anti-corruption, anti-bribery, cybersecurity and environmental management are in harmony with our own responsible practices.

In summary, we expect of our suppliers what we expect of ourselves.

Awarded 'International Procurement Project of the Year'

# Making a real difference as a responsible business continued




## Employee stats

NATS is fortunate to have a highly educated and diverse workforce supporting our operation and business. While the majority of staff work at one of our three main sites, you may be surprised how many are spread across the UK and beyond.

Overall, at year end we had 4,225 full time equivalent staff, with a gender split of 75 per cent male and 25 per cent female. Approximately 1,600 staff are employed as Air Traffic Control Officers, 650 as Air Traffic Services Assistants, 950 as engineers and another 950 as specialist and business support staff, including trainees, apprentice and placement students.

We continue to encourage continuing professional development and lifelong learning through our in-house and external training options. Our PATH development programme is particularly focused on helping employees identify and develop the skills and capabilities needed to deliver against our strategy.

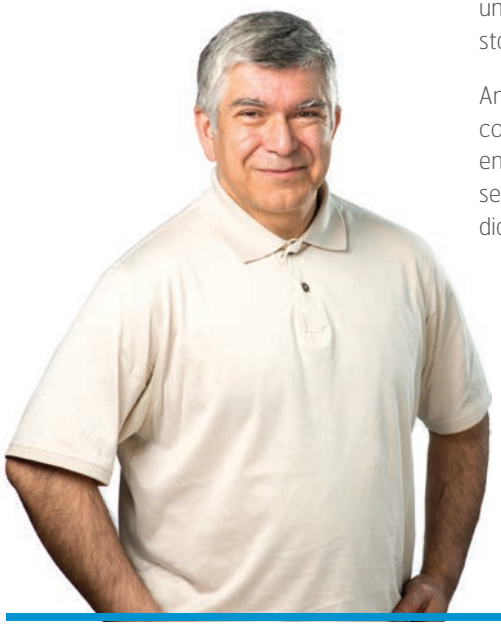
**Manned sites map key:**

- Airports with NATS service
- Offices, Control Centres and remote sites

# Making a real difference as a responsible business continued

## Working Together – Tahir Latif, Public and Commercial Services Union

The way union representatives interact with company management is set out under our Working Together agreement. Essentially, this ensures unions have a say in decisions affecting members.



Tahir Latif

Brought in by former Chief Executive Paul Barron, it was seen as a mutually acceptable way of engagement and was soon practised across NATS as an easily understood mechanism for pragmatic decision-making. Working Together does get people around a table talking and is a process trusted to get an outcome that's of greater benefit to our members.

There is pressure from our members, drawn from air traffic service assistants and administrative and professional grades, to test this approach as it does involve a certain sacrifice from their perspective in terms of union members meeting regularly, at every stage of negotiations.

Another way Working Together can contribute is with ideas on how we run the environmental aspects of the business, it serves as a pathway for suggestions and dialogue.

## Lifesaving partners

EMCOR UK provides our facility management service across the business. The team at our Corporate and Technical Centre won a standing ovation at the company annual Performance Excellence Awards, when the team was recognised for saving the life of a visitor last year. He'd suffered a heart attack and had stopped breathing, but the seven-strong team performed defibrillation four times to keep him alive.

Paramedics later acknowledged that he would not have survived if it had not been for the actions of the on-site Security and Logistics teams. This feat was recognised at the awards with the Going the Extra Mile Award, which was followed by a win in the Team of the Year category. The visitor has since made a full recovery and joined the EMCOR team with his family at the awards ceremony.

# Making a real difference as a responsible business continued

## Awards triple for employee health and wellness – Denise James, Health and Safety Co-ordinator

Facilities management, occupational health and the human resources team at our Prestwick centre won three awards over the past year from the Chartered Institute of Personnel and Development (Best Health and Wellbeing Initiative), the Royal Society for the Prevention of Accidents (Health at Work Award) and the Ayrshire Business Award (Safety culture Gold Award).

These awards come hot on the heels of, and are under-pinned by, Prestwick centre's recent successes in achieving the Scottish NHS's Healthy Working Lives Bronze, Silver and Gold Awards. These are evidence based awards, audited by the Scottish NHS for compliance to their framework and standards.

In keeping with the ethos of these awards, delivery of the strategy at Prestwick centre has been a collective effort involving: Facilities Management, Health & Safety, Human Resources, Occupational Health, the management team, our on-site suppliers EMCOR and baxterstory. Hence our success is the success of the entire Prestwick centre and these awards are a positive endorsement of the choices made at Prestwick centre.

Reflecting upon these accolades we should recognise and celebrate those achievements, in our work, which the awarding bodies themselves have identified as demanding recognition, which, in a nutshell, could be described as encouraging colleagues to make the right health choices. It is those choices which have a long-lasting benefit for colleagues and the organisation.

Denise James



# Making a real difference as a responsible business continued

## Measuring, managing, reporting, assuring: our approach – Dr Jarlath Molloy, Environmental Affairs Manager

NATS is a complex business – physically and operationally. Unlike most other companies, the boundary of what we have control over extends upwards, which brings its own set of challenges when measuring environmental impact.

Over the last year we have worked to implement a number of measures to formalise how we measure and report our environmental impact, building on our Environmental Management System. For example, NATS became the first air navigation service provider to sign up to an international industry standard for calculating greenhouse gas emissions, known as the greenhouse gas (GHG) emissions, known as the GHG Protocol. It's voluntary and required a good deal of work has helped us identify new opportunities, as well as ensure consistency in annually reporting our GHG emissions.

Towards the end of the financial year we asked consultants Carbon Credentials to collect our energy and environmental data and then commissioned PricewaterhouseCoopers to audit NATS under the ISAE3000/3410 standard of assurance on our estate environmental data. I am particularly grateful to colleagues in Employee Payments, Environmental & Community Affairs, Estates, Facilities Management, Finance, Health & Safety, Internal Audit, Property and Supply Chain for all their support – many of whom are featured elsewhere in this report. In 2016 the process will be extended to the airspace we manage; another first in our industry.

The next step has been to review how we report our energy and environmental information. Signing up to the Climate Disclosure Standards Board reporting framework helped us to prepare and present this information in conventional business reporting in a standard way. We've implemented it in the 2015-16 Annual Report & Accounts, giving a further dimension to how we report to our customers and stakeholders. Building on this progress, we plan to voluntarily make a CDP submission on our GHG emissions performance following the publication of our Responsible Business report; another first for an air navigation services provider.

We believe the work undertaken this year sets a new bar and gives our internal and external stakeholders increased confidence in our energy and environmental data, analysis and management. Inevitably, it has highlighted a few challenges and necessary improvements - but this is precisely why we have undertaken it. We also recognise growing expectations for transparency on corporate non-financial performance and are preparing for EU Directive 2014/95/EU, which will require additional reporting across Europe from 2018.

Dr Jarlath Molloy

# Material risks and opportunities

Our customer and stakeholder perspectives are very important to us. We aim to be responsive to their views in the services we provide. However, our engagement is much deeper than a typical customer supplier relationship. A number of NATS' key customers and stakeholders are also investors and are represented on our board of directors. This ensures we can collectively make better and more informed decisions.

NATS has regular individual and collective meetings with customers throughout the year on technical, operational, policy and other issues. We also regularly engage with our other main stakeholders, including community representatives, the Civil Aviation Authority and Department for Transport, EUROCONTROL, EASA and ICAO.

Each year we also engage a number of customers and stakeholders to invite feedback on our annual report. In 2015 we formalised this process, as part of a wider review with external and internal participants on our environment programme, which included a materiality review. We undertook research to identify a broad range of relevant non-financial issues, based on appropriate guidance, including the Corporate Reporting Dialogue[2], ACCA[3] and using NATS' existing risk management system. We considered how these issues impact on various stakeholders, over different timeframes and the severity of each. We asked representatives of our key customers and stakeholder about their expectations, interests and perceptions of what our priorities should be. As a result of this consultation, we identified a priority set of risks. Applying a materiality test we then prioritised the main risks and challenges NATS faces:

- Noise
- ATM-related $CO_2$ emissions
- Airspace efficiency
- Climate change adaptation for our estate and operations
- Relationships with communities where we operate
- Reputation and trust
- Supply chain
- Governance
- Employee satisfaction
- Certified ISO14001 environmental management system
- Environmental impacts and stewardship
- Non-financial performance and compliance
- Sustainable working environment

The outcome of this review will include a new responsible business policy, which we expect to release in 2016. In the meantime, we have re-scoped, re-designed and renamed this report.

[2] Corporate Reporting Dialogue (2016) Statement of common principles of materiality of the corporate reporting dialogue [http://corporatereportingdialogue.com/wp-content/uploads/2016/03/Statement-of-Common-Principles-of-Materiality.pdf]

[3] ACCA (2013) Identifying natural capital risk and materiality [http://www.accaglobal.com/content/dam/acca/global/PDF-technical/sustainability-reporting/natural-capital-materiality-paper.pdf]

# Key non-financial performance table

| Energy & environmental performance | 2015-16 | 2014-15 |
|---|---|---|
| Enabled ATM related $CO_2$ emission reduction | 4.3% | 4.2% |
| 3Di score (calendar year) | 30.1 | 29.8 |
| Energy consumption (MWh) | 60,404 | 60,975 |
| Scope 1 emissions (tonnes $CO_2e$) | 3,183^ | 3,189 |
| Scope 2 emissions (tonnes $CO_2e$) location based method | 27,934^ | 30,138 |
| Scope 2 emissions (tonnes $CO_2e$) market based method | 11,441 | N/A |
| Intensity metric (scope 1 + 2 tonnes $CO_2e$ per £m of revenue) | 34.6^ | 36.1 |
| Scope 3 emissions (tonnes $CO_2e$) | 5,868 | N/A |
| Water consumption ($m^3$) | 49,645^ | 47,032 |

The data has been collected using the operational control approach and covers the UK sites of NATS Holdings Limited and its AQUILA joint venture, which is based at NATS head office. Data for 2014-15 has been restated following implementation of the GHG Protocol and additional internal verification procedures. Certain environmental performance metrics in the table above as at 31st March 2016 have been subject to external assurance by PricewaterhouseCoopers LLP ('PwC'). PwC has carried out a limited assurance engagement on selected 2016 metrics marked with an ^. A copy of the assurance opinion is **available here**, as well as the basis of preparation for the selected energy and environmental performance metrics above.

## We hear you

Please do get in touch if you have any questions or comments, as we genuinely welcome constructive feedback.

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