

Safety

Safety is our key priority, and ensuring a safe and healthy airport environment and workplace is the shared responsibility of all stakeholders. Together with our partners, we are working to safeguard the safety of passengers and other visitors to the Schiphol site while also maintaining the highest workplace safety standards. As the airport operator, Royal Schiphol Group monitors compliance with all relevant regulations.

Day to day, the airports in our Group are faced with varying operational risks, including runway incursions, bird strikes and fire safety, with multiple departments and management systems actively engaged in ensuring and monitoring safety. Their task is to ensure safety consciousness remains top of mind in everything we do, and particularly during large expansion projects involving large numbers of external employees.

Proactive safety culture

Our goal for 2020 is to develop Schiphol into a High Reliability Organisation (HRO) with a proactive safety culture. In 2016, we launched the Schiphol for Safety (S4S) programme. We measure our progress using Hudson's Health, Safety and Environment (HSE) culture ladder.

In 2017, a baseline measurement was carried out across our organisation to assess the strength of our internal safety practices. The outcome is enabling us to take steps towards a proactive safety culture. A number of initiatives took place over the course of 2018 to support this process. In addition to hosting the annual HRO Academy conference in February 2018, we organised five Schiphol HRO Academy meetings during the course of the year. These events are an opportunity for different departments to learn from each other as well as from other organisations. We made short videos about behaviour and how we organise safety at Schiphol and developed a tool to help departments and employees measure progress on proactive safety behaviour. We also held constructive safety discussions with the airport's facility and security contractors.

Safety Walks

In 2018, the Management Board and other key managers took part in seven Safety Walks, with members of the Supervisory Board participating in three of the walks. The walks are an opportunity for managers to engage with employees on safety issues and dilemmas, understand the kinds of situations they face in their daily work, and review safety procedures and behaviour. Several management teams also held their own Safety Walks throughout the year; these include a proactive Safety & Security Walk organised by the various security companies operating at Schiphol.

Integral Safety Management System (ISMS)

Our safety processes are managed and coordinated by the Integral Safety Management System (ISMS), a collaboration between Schiphol Airport, Air Traffic Control the Netherlands, airlines, ground handlers and refuelling services. The system was introduced taking into account the recommendations of the Dutch Safety Board (OvV), which published a report on the safety of air traffic at Schiphol in 2017. In 2018, the ISMS realised a number of key safety improvements, including:

- A fixed connection to the fuel system at the Delta and Echo buffer, which reduces the number of movements of tank trucks to these positions. This is likely to reduce the risk of on-ground safety occurrences.
- Additional guidance lines at the Pier G/H area to the Bravo taxiway. This will enable narrow-body aircraft to pass each other safely when taxiing to and from Pier G/H. This reduces complexity and reduces the likelihood of on-ground safety occurrences.
- Creation of an unequivocal traffic flow to and from the Kilo platform at Schiphol-East. This involved introducing a one-way traffic system and a safer routing for entering and leaving the Kilo platform, eliminating the chance of runway incursions at Runway 04-22 (Schiphol-Oostbaan).

To further drive safety, the ISMS partners have created the 'Roadmap Safety Improvement Schiphol', with nine measures due for implementation during the 2019-2023 period and a further 15 measures currently under review. The Roadmap, published at www.integralsafetyschiphol.com, is a working document aligning all parties on shared goals.

Safety on and around runways

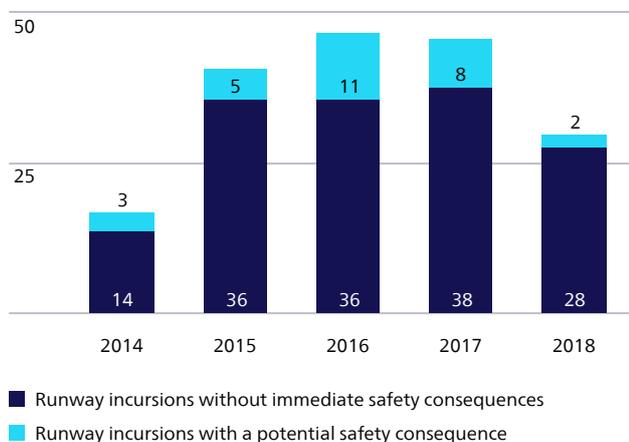
The Runway Safety Team (RST) is a key component of the ISMS. The RST consists of a team of experts tasked with identifying ways to prevent runway incursions at Schiphol. A runway incursion is, according to the definition of ICAO, any occurrence at an aerodrome involving the incorrect presence of an aircraft, vehicle or person on the protected area of a surface designated for the landing and take-off of aircraft. The team continuously monitors trends to identify locations at the airport where there is a greater likelihood of runway incursions. This has resulted in a number of ongoing studies and implementation projects aimed at structurally reducing the occurrence of runway incursions and the associated risks. In 2018, two runway incursions took place at Schiphol with a potential safety consequence (2017: eight).

One of these incursions involved a serious incident and is being jointly investigated by the Dutch aviation sector via the ISMS and by the OvV. On Friday 27 July, a runway incursion occurred on runway 18C-36C, 'the Zwanenburgbaan'. An aircraft at the start of the runway was given take-off clearance, while at the same time, another aircraft had been given clearance to enter the same runway at an intersection further along. The take-off of the first aircraft was aborted and the second aircraft stopped in the intersection. 28 further runway incursions took place that fell

under the definition of a runway incursion without immediate safety consequences.

Runway incursions at Schiphol ¹

(annual number)



¹ The 2018 figures are based on the third version of the European Action Plan for the Prevention of Runway Incursions (EAPPRI 3.0), published in 2018.

Bird strikes

Birds remain a serious flight safety risk. In order to control this risk, Schiphol employs bird controllers to patrol the landing area 24 hours a day, seven days a week. In 2018, Amsterdam Airport Schiphol experienced 6.6 bird strikes per 10,000 air transport movements (2017: 5.8). Fortunately, none had serious consequences. Due to the warm weather in spring, summer and autumn of 2018, the bird population in the vicinity of the airport has grown significantly in recent months, bringing the downward trend of the past few years to a halt.

We have recently added three new radar stations to Schiphol's bird detection system; there are now four stations, giving us radar coverage of the entire airport area and part of the adjacent grounds. In May 2018, the initial results of the radar data were analysed. These provided valuable insights, enabling both the airport and the Netherlands Control Group for Bird Strikes (NRV) to take decisive action with regard to crops in order to minimise the risk of future strikes. In line with the recommendations of the NRV, the airport only sows grass infected with endophytes that are unpalatable to mice and geese. From 2019, farmers with cropland belonging to the airport will also deploy this measure and will no longer grow grain.

Bird strikes at Schiphol

(number per 10,000 air transport movements)

2018	6.6
2017	5.8
2016	6.7
2015	8.4
2014	5.8
2013	6.1

Fire safety

Fire is one of the biggest threats to safety at the Schiphol terminal. We comply fully with the statutory requirements for fire safety, regarding these as the absolute minimum. In 2018, we implemented a new approach to fire safety, the core aims of which are to prevent casualties, avoid damage to assets and ensure the continuity of the operation. As part of the approach, we have established a dedicated Fire Safety Office (FSO) and overseen the development of an Integral Fire Safety Plan (IPB). For now, the FSO will focus primarily on fire safety of current and future terminal buildings, including the Crew Center and Skyport. Its future scope will include all buildings at Schiphol. Increasing cooperation between the FSO, the Schiphol fire brigade, Schiphol Real Estate and other relevant departments is an important aim for 2019, while we will also expand our efforts to drive fire safety awareness among Schiphol's visitors and its employees.

Safety at work

We work hard to safeguard the wellbeing of the people who work for us and with us, as well as those who visit our facilities. To ensure we continue providing our employees with a safe and healthy work environment, Schiphol periodically carries out inventories of risks in the workplace. Work-related accidents resulting in absenteeism are registered using the Lost Time Injury Frequency (LTIF) system, which measures the number of such incidents per million hours worked. The system makes it possible to compare our performance against that of other companies. While measuring lost time is essential, we believe that any accident is one too many.

In 2018, Schiphol Nederland B.V. (excluding the fire department) recorded an LTIF of 0.3 (2017: 1.0). The LTIF score for the fire department was 16.4 (2017: 25.7). Both scores are below the set limits of 3 and 40, respectively. Over the past five years, the absolute number of incidents leading to injury has fluctuated between 5 and 9, giving an average of 7.3 (2017: 4.8). No fatal incidents involving employees occurred in 2018.

Safety of travellers and visitors

There were 246 incidents involving injuries to travellers and visitors at the Schiphol terminal in 2018 (2017: 229). In 2018, there were no fatal incidents involving passengers or visitors. Where necessary, our in-house emergency response service attended to these incidents on site. Crowd management is seen by Schiphol

as an important control mechanism for preventing injury-causing risks involving large crowds within the terminal. Crowd-management teams responsible for supervising people flows are deployed to specific hotspots within the terminal, and we also pay close attention to vertical and horizontal walkways, where there is an increased risk of people falling.

HSE standards

In 2018, Schiphol harmonised the various HSE standards allocated to individual projects or work activities, standardising these into the single, integrated 'HSE standard Schiphol'. Through this action, we aim to further improve safety across our construction and maintenance activities.

This standard will be implemented in early 2019, providing our partners with clear and objective expectations when it comes to guaranteeing safety and protecting the environment. Having a consistent set of standards in place will be increasingly important as construction activity intensifies at Schiphol over the coming years.

Noise

Aircraft noise has a major impact on the quality of life of local residents, which is why it has a central role in the environmental rules that apply to Schiphol. Given that the airport has reached its limit of permitted air transport movements, this complex issue is becoming increasingly sensitive. In 2018, we succeeded in staying below the agreed maximum of 500,000 movements. The scarcity of airspace and the relative positions of stakeholders are decisive for the course of negotiations on further developments regarding air transport movements beyond 2020. The intensive and extensive public consultations taking place over 2017-2018 will continue through 2019.

New Environmental Standards and Enforcement System

The Dutch government is working towards the introduction of the New Environmental Standards and Enforcement System (NNHS). The system establishes guidelines regarding preferential runway use at Schiphol with a view to minimising the effects of noise disturbance on the local community. Specifically, Runway 18R-36L (the Polderbaan) and Runway 06-24 (the Kaagbaan) are recognised as preferred options for take-offs and landings by virtue of being at a greater distance from the residential areas around Schiphol.

Although the NNHS has not officially entered into effect, the aviation sector has been actively preparing for its introduction. In 2018, all flights at Schiphol were undertaken in accordance with the NNHS. Enforcement, however, was carried out according to the old system of enforcement points, consisting of 60 points located around the airport. As a consequence, the noise impact

at four of the enforcement points was greater than the limit value under the old system. All night-time enforcement points remained within the old limit value.

Each quarter, Schiphol reports on the application of the rules in relation to the new system. Two elements will require further elaboration: the rules regarding the use of the fourth runway as well as those limiting night-time air traffic. Solutions to these issues must be found before the new system formally takes effect, and are currently being discussed with the Schiphol Local Community Council (ORS).

The Human Environment and Transport Inspectorate will also take the new system into account in anticipation of its implementation, though no penalties will be imposed on the sector if breaches are found to be the result of the application of the new standards. Because the new system is not yet formally in force, a number of local residents have expressed concerns that they are no longer entitled to legal protection and have requested that their rights be maintained in line with the previous system. The residents have filed a lawsuit against the Human Environment and Transport Inspectorate, though this has not proved successful.

A new Airport Traffic Ruling is required to formally anchor the NNHS and will be determined depending on the outcome of an environmental impact assessment (MER). A draft version of the MER was presented in November 2018, with the finalised version expected in the first quarter of 2019.

Amending the environmental impact assessment (MER)

As part of the draft MER, Schiphol has examined the environmental impact of the new system. The results show that the airport's development towards 500,000 air transport movements in 2020 is achievable within the environmental limits set out by the Alders agreement. The effects (calculated on the basis of the current housing situation) were mapped out in the draft MER and contain an updated calculation based on the new European 'Doc. 29' calculation method. The new model replaces the old Dutch calculation method and is able to determine the level of noise disturbance with greater accuracy, thereby reinforcing the recommendations provided by the Netherlands Commission for Environmental Assessment (NCEA).

Further to the Alders agreement, the environmental impact of Schiphol's development beyond 2020 has been calculated at the request of the Ministry of Infrastructure and Water Management (I&W). A scenario has been calculated based on 540,000 air transport movements. The MER therefore indicates there is scope for further developing the airport, in principle.

The draft MER serves as input for future ORS agreements regarding Schiphol's development beyond 2020. It is therefore important that all parties fully trust that the current content of