Achieve proactive turnaround management
With Deep Turnaround

aviation
solutions

Schiphol
Group

The turnaround process – A source of delays and misalignment

The turnaround process is at the heart of airport processes and is mostly managed externally by airlines and ground handling third parties. For many airports, there is limited real-time information on the aircraft turnaround process. Every day, this is causing delays, capacity inefficiencies and challenges in collaboration with sector partners.

At most airports, between 40-50% of delays occur during the turnaround process. Delays usually lead to more delays: delays in the turnaround of one aircraft can lead to a last-minute gate change for another, which again could cause delays in ground handling leading to a missed runway slot. Throughout this process, there is a lot of misalignment between all involved sector partners, with different perspectives of the truth

Optimise the turnaround process: past, present, and future

Using AI image-based processing, Deep Turnaround captures over 70 unique events across 30+ turnaround processes. Delays are detected within 5 minutes of the actual in-block time, enabling informed decisions to enhance processes. Users are informed on the turnaround progress by automatically generated alerts, sharing critical information about anomalies, incidents, or expected delays in real-time.

Past	Present	Future
Analyse past performance to find inefficiencies. Work with handlers, and other stakeholders, from a single source of truth.	Real-time registration of current turnarounds, allowing you to catch irregularities as soon as they occur.	The trained AI model continuously updates a predicted TOBT, allowing you to manage expected delays.
■ Always a single source of truth ■ Recognise bottlenecks to optimise	■ Always know what is happening ■ Live alerts of any deviations	■ More accurate TOBT predictions ■ Intervene and change slots in time
Used by: Ground handlers, APOC/AOCC, airlines	**Used by:** ATC, handlers, gate personnel, baggage personnel, airlines	**Used by:** ATC, handlers, gate planners, airlines

Trusted by airports, airlines, and stakeholders

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EindhovenAirport · easyJet · TUI · KLM · MENZIES AVIATION · EUROCONTROL · AVIAPARTNER

Deep Turnaround brings clarity and performance

Decrease the number and duration of delays	More predictable turnarounds	A single source of truth for all stakeholders
Deep Turnaround gives insight into what before was a blind-spot in data. Historical insights provide the opportunity to change processes structurally.	Based on over 1.000.000 turnarounds, Deep Turnaround's predictive capabilities detect delays before anyone else can.	Effective communication is key for effective airport processes. Objective turnaround data facilitates a base for constructive discussion and cooperation.

Improving OTP & facilitating growth

Deep Turnaround is developed to increase the efficiency and safety of the turnaround process.

The efficiencies that can be realised with Deep Turnaround lead to overall OTP improvement and help airports grow their capacity with their current infrastructure.

Sustainable OTP improvement	Reduce delay minutes	Airport growth with current infrastructure	Runway slot usage	Passenger experience
+3% to 6% OTP improvement	**-4 min** reduced delay minutes per turnaround	**-5 min** reduced buffer time	**-50%** TSAT (Slot) expirations	**-25%** last minute gate changes
30 - 50% reduced turnaround delays		**2.5% - 5%** Increased airport capacity		**-12%** tow movements

The value for your airport

By implementing Deep Turnaround at your airport, you will open up the turnaround black box. Getting insights on what's happening on the platform is the starting point for many possibilities.

1 Improve the turnaround process through post-ops analysis
- Identify the causes of turnaround delays
- Reduce turnaround delays by up to 30%
- Includes over 70 turnaround events
- Improve passenger experiences

2 Increase airport capacity without having to add stands
- Increase certainty of actual push back time
- Reduce buffer times between planes
- Increase stand utilisation due to higher capacity
- Increase airport resilience by reallocating time gained to late arrivals
- Improve long-term gate planning and investments in stands

3 Enable transparent turnaround contracts and collaborate more effectively
- Transparent and objective KPI's in SLA's
- Create accountability and match performance and reward
- Transparency on delay code registration
- Increase OTP of manageable delays

4 Smarter use of runway slots and reduced TSAT expirations

- ■ Airlines will enjoy operational efficiencies through reduced fuel burns to catch up with delays.
- ■ Reduce TSAT expirations.
- ■ Ground handlers will benefit from reduced asset idle time and experience indirect sustainability benefits.
- ■ Air Traffic Control can reallocate TSAT windows to other aircrafts.

5 Better resource and asset management through optimised planning

- ■ Real time insights into asset usage, predicting when an asset is ready or when it is needed
- ■ PAX/BAX coordinators can optimise their schedule through real time predictions.
- ■ Apron personnel can decide to re-prioritise to avoid idle time.
- ■ Better planning will result in fewer last minute movements on airport increasing safety on airport roads.

6 Reducing last-minute gate changes through improved TOBT setting

- ■ Gate planners can use the Predicted End of Ground Handling time to reallocate gates in order to mitigate tow movements and passenger disruptions.
- ■ Better informed decision-making to buffer aircrafts.
- ■ Initiate gate changes earlier and avoid last-minute gate changes.
- ■ Sustainable use of runways at capacity

Built by and for the aviation industry

When using Deep Turnaround, you go beyond a technical solution and enter into a partnership with aviation experts who understand operational challenges. Collaborating with Aviation Solutions means working with professionals who value data and insights to optimise airport operations. You get access to best practices that enhance the overall operational airport ecosystem, including a community of ground handlers, airlines, and airports. Our team is experienced in the business and operational changes required. Our primary driver is to deliver operational value for airports, airlines, and handlers.

Leader in scaling

Deep Turnaround delivers comprehensive turnaround insights to airports worldwide. Our scalable AI can be deployed quickly and consistently across all airport stands. Unlike the competition, Deep Turnaround has proven its ability to scale effortlessly to 100+ stands per airport, realising sustainable value for users at the stands. With the ability to achieve a full-scale implementation, airports will significantly increase user adoption and optimise turnaround operations across the entire airport.

Realise user adoption
Deep Turnaround can be used standalone via our dashboard or app, and insights can also be accessed through an API. This flexibility allows you and third parties to integrate the data within your existing (third party) software platforms. From our experience, this approach results in higher user adoption rates and greater value realisation at your airport. Our integrated approach centralises turnaround insights to suit your current operations, providing a single, real-time source of truth for all operational parties at the airport.

Continuous innovation and new features
We drive a shared product roadmap through the User Group Turnaround Community to maximise the value of our solutions for airports.
As airports become more familiar with a turnaround management solution through their community, they uncover new use cases. New feature developments are based on and prioritised according to your needs to enhance turnaround management. Once an event is added, it is pushed to all the airports within our User Group Turnaround Community. With Deep Turnaround, these new use cases, features, and events are immediately available without the need for additional purchases or modules.
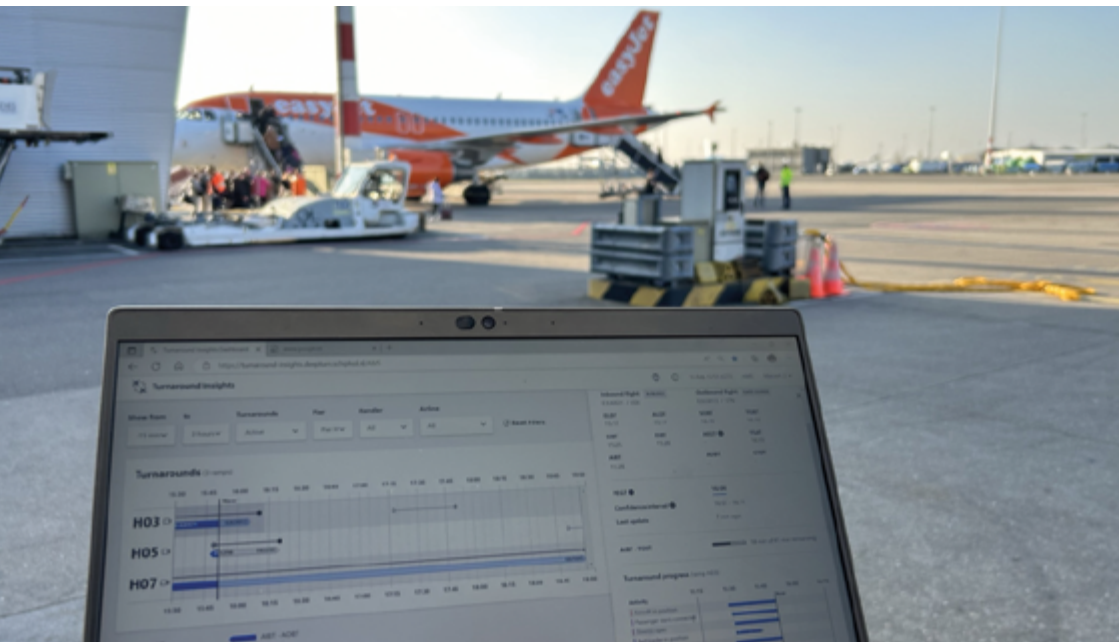
Realise Deep Turnaround at your airport

Once you've made the decision to implement Deep Turnaround at your airport there are a few things to get done. Based on our own experience as an airport, here's how we make sure Deep Turnaround delivers the value you expect it to at your airport.

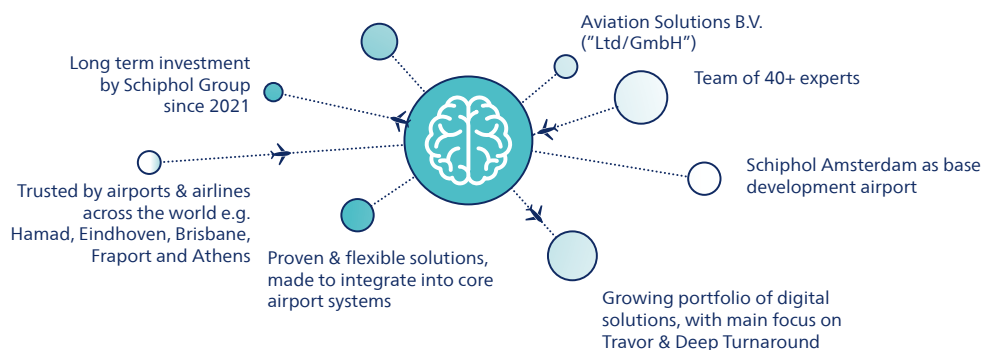|	
Step 1: Preparation	First, we determine which package (product, support module, add-ons) is most suitable for your airport. In addition, we will jointly develop a camera plan for your airport, allowing a clear view of the aprons in scope, and we validate the technical requirements.
Step 2: Deployment	During deployment, cameras will be mounted on site (with your local contractor). The full system architecture is deployed including any physical or virtual infrastructure and integrations with input data is established. The AI model will be calibrated and tested.
Step 3: Validation and go-live	The system is made live in a production state and all stakeholders are offered role specific demonstrations and training. To make the deployment of Deep Turnaround a success, user onboarding is key and is always included.
Step 4: Support	During the first months we monitor performance closely and improve the predictive model based on the first data collected at your airport. In addition, we ensure users and stakeholders get confident in using the solution and improving the processes.

About Aviation Solutions –
Your long-term and trusted business partner

We are a business partner ready to scale

Aviation Solutions B.V.
("Ltd/GmbH")

Team of 40+ experts

Long term investment
by Schiphol Group
since 2021

Schiphol Amsterdam as base
development airport

Trusted by airports & airlines
across the world e.g.
Hamad, Eindhoven, Brisbane,
Fraport and Athens

Proven & flexible solutions,
made to integrate into core
airport systems

Growing portfolio of digital
solutions, with main focus on
Travor & Deep Turnaround

What others say

"The turnaround process used to be a black box. With Deep Turnaround, we generate the necessary data and insights. By looking at the same transparent, real-time and historical data with all our partners, we can collaborate to focus even more closely on efficient planning and execution with a better OTP as a result. And ultimately, a higher customer satisfaction."

Frédérique Portheine – Manager Operational Excellence – Eindhoven Airport

"Finally, we have an accurate overview of the turnaround process. This allows us to optimise day-planning, and it makes it a lot easier to remotely change or set an accurate TOBT (Target Off-Block Time). In turn, this improves the information provision towards the airport and Air Traffic Control."

Wouter van der Voort, Lead Coördination Schiphol, Viggo (Ground Handling)

We strongly believe in collaboration across the aviation industry. Airports face similar challenges and can speed up innovation by learning from best practices across the sector. We are therefore bringing our most innovative airport solutions, with proven business value at Amsterdam Airport Schiphol and other airports, to market. We develop solutions in-house or work closely together with industry leaders to tackle our common challenges head on.

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