

Handle and exchange

# Flight Progress Information

DIFLIS  
Electronic Flight  
Strip system



**ADB  
SAFEGATE**

# How does the Electronic Flight Strip System work?

## Are you ready?

Constantly increasing air traffic puts a lot of pressure on Air Traffic Controllers (ATCOs), requiring more and faster communication and coordination overhead, which adds to their already heavy workload. Wherever possible, this workload needs to be reduced. Therefore, highly sophisticated and efficient ATC systems with increasing numbers of working positions, each with differing functions, are needed. One of those systems supporting ATCOs in their daily operations is an Electronic Flight Strip System, improving the situation where ATCOs work with paper flight strips or electronic flight plan lists.

## The ADB SAFEGATE solution

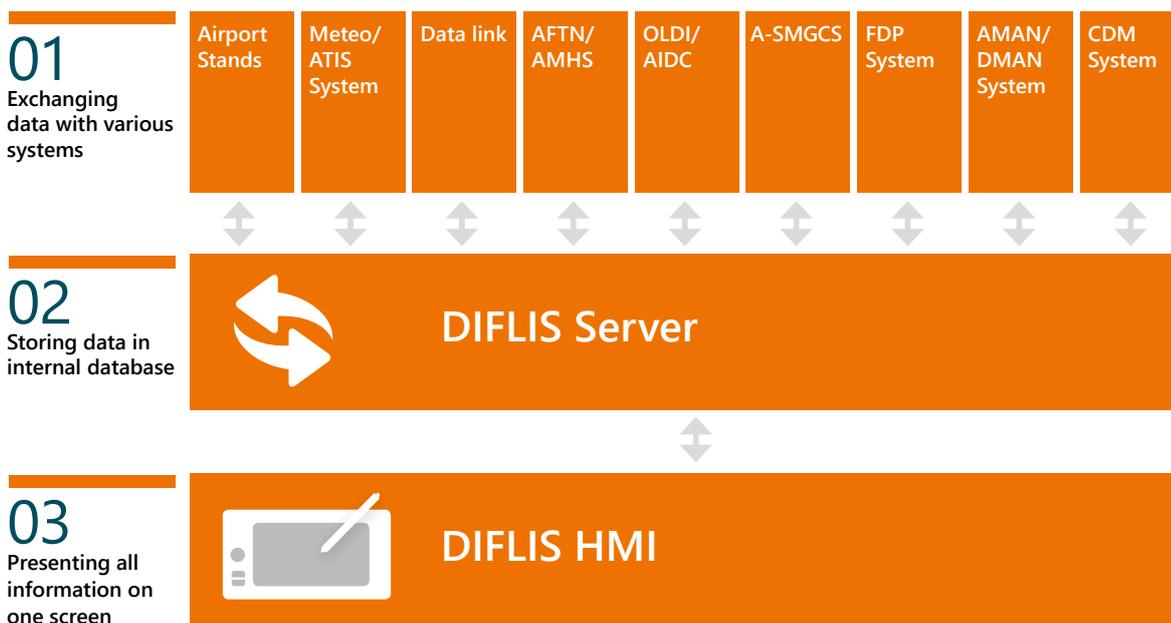
**DIFLIS** – as a part of ADB SAFEGATE Tower ATM package – is a fully digital representation of flight strips on a computer touch-pen display. It combines the well-established benefits of a paper strip system with the possibilities offered by electronic data handling. In addition, DIFLIS provides ATCOs with a workflow-based support logic that dramatically reduces the time necessary to handle data input and strip handling. DIFLIS collects all valuable information and provides statistics that are used for constant improvements in tower operations.

## The Integrated Workflow

DIFLIS is driven by a workflow, which proposes the next steps for a flight along a logical sequence of events. This reduces the time required to interact with the strip system to an absolute minimum, freeing the ATCOs capacity for their primary tasks – provision of a safe and orderly flow of traffic. DIFLIS is very flexible and the workflow can handle all kinds of procedures – civil or military flights, standard or non-standard – including Y and Z – flights, formation flights, training flights, re-landings, diversions and helicopters. Because of its highly configurable architecture, DIFLIS can easily be adapted to your site, no matter what traffic volume has to be covered. It is ready for Tower, Approach, and Area Control Centre (ACC), and includes complete aircraft and vehicle handling on the maneuvering area.

## Introducing DIFLIS – an Electronic Flight Strip System

Support for communication with a great variety of external systems (TCP/IP, UDP, serial lines etc.). Standards (ADEXP, XML, ASTERIX etc.) are used when possible.



*DIFLIS provides the user with flight progress strips. Interaction is based on a paper strip metaphor. The appearance, content and layout are carefully designed to the needs of ATCOs. The content of these strips is automatically synchronized with external sources, or can be updated manually. The arrangement of flight strips in logical strip bays, and the possibility to rearrange the flight strips within the bay to plan a flight sequence, provides a clear status presentation of a particular air traffic situation.*

## Human Machine Interface

One of the key elements of DIFLIS is the HMI. Based on the experience and continuous cooperation with active ATCOs from international Air Navigation Service Providers, DIFLIS is extremely easy to handle because of its intuitive HMI. ATCOs will immediately feel comfortable with DIFLIS. It has been successfully introduced to many airports, and the experience gained will help you make a smooth transition away from paper strips. While the entire workflow covers even the most complex airspace and sector structure, DIFLIS itself remains clear and well structured. Opening and closing working positions or transferring roles is smooth and simple. Local coordination procedures are respected and presented in an unmistakable manner, and silent coordination with neighboring sectors is an integrated part of DIFLIS.



## Handwriting

The system supports handwriting for which a pen-input is best suited. All hand-written notes are kept during the life-cycle of a strip and can be transferred between different CWP when a strip is moved.



## Flexibility and Connectivity

DIFLIS typically receives flight plans from external data sources. When no flight plans are available from any external system, DIFLIS supports a simple way to create flight plans (for example free-callers) and vehicle strips (for example tows). Within DIFLIS the user can control air field lighting systems (for example stop bars) and NavAids, or set runway configurations.

## Enabling Higher Situational Awareness

DIFLIS is also designed to integrate with an A-SMGCS such as the ACEMAX. This integration is an additional key to higher situational awareness at a CWP. The enhanced safety net logic (conflicting ATC clearances, conformance monitoring alerts for controllers) opens further opportunities for conflict detection and alerting features. Events detected by an A-SMGCS can be processed by DIFLIS, allowing for more detailed monitoring of any moving traffic at an airport. These recorded events and clearance time stamps can be distributed as input for other subsystems such as billing, traffic statistics and more.



## Scalability

Another key feature of DIFLIS is its modular architecture. You can equip a medium-sized airport with electronic flight strips with an option for future expansion. You can add other features such as automatic DCL, ACEMAX integration, or add more CWPs later on.

DIFLIS is designed for easy and cost-effective expansion and upgrade. You can reduce the financial risk by selecting the configuration currently needed and operate a system that can be expanded with minimum cost and effort.

## Key Features

- Important tool for planning and controlling ground and air traffic
- Optimal presentation of relevant information
- Open and modular architecture
- Highly configurable HMI
- Highly configurable workflow
- Standard workflow steps performed with a single click
- Accepts flight plan data from FDPS via FDE, AFTN/AMHS, OLDI/AIDC
- Updates flight plans in the FDPS
- Interface to airport information system (for example stand information)
- CWPs can be arbitrarily opened and closed
- Flexible, dynamic assignment of CWP roles

- Intuitive creation of flight strips for all kinds of flights or vehicles (for example free-callers)
- Can be interfaced to A-SMGCS and DCL systems
- Can be interfaced to arrival/departure management systems (for example OPTAMOS)
- Recording and replay

## Benefits

- Sharing and provision of data with other systems or partners are easily possible
- Silent coordination between ATCOs reduces R/T frequency
- Electronic clearance input for A-SMGCS Safety nets, Routing and Guidance, Departure Manager
- Key enabler for A-CDM



ADB SAFEGATE is a leading provider of intelligent solutions that deliver superior airport performance from approach to departure. We partner with airports and airlines to analyze their current structures and operations, and jointly identify and solve bottlenecks. Our consultative approach enables airports to improve efficiency, enhance safety and environmental sustainability, as well as reduce operational costs. Our portfolio includes solutions and services that harmonize airport performance, tackling every aspect of traffic handling and guidance, from approach, runway and taxiway lighting, to tower-based traffic control systems and intelligent gate and docking automation.

ADB SAFEGATE has 900+ employees in more than 20 countries and serves some 2,000+ airports in more than 175 countries.

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