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## SafetyNets

### for Air Traffic Controllers

Prewarning and alerting tool that helps Air Traffic Controllers identify potentially dangerous situations in time to take preventive action.

#### The Solution

Using flight plan data from the Flight Data Processing System (FDPS) and current position data from the Surveillance Data Processing System (SDPS), SafetyNets gives Air Traffic Controllers timely forewarnings and alerts of potential safety issues.

SafetyNets provides a common framework that supports functions such as Short-Term Conflict Alerting (STCA), Minimum Safe Altitude Warning (MSAW), Area Proximity Warning (APW), Cleared Level Adherence Monitoring (CLAM) and Route Adherence Monitor (RAM), depending on FDPS input.

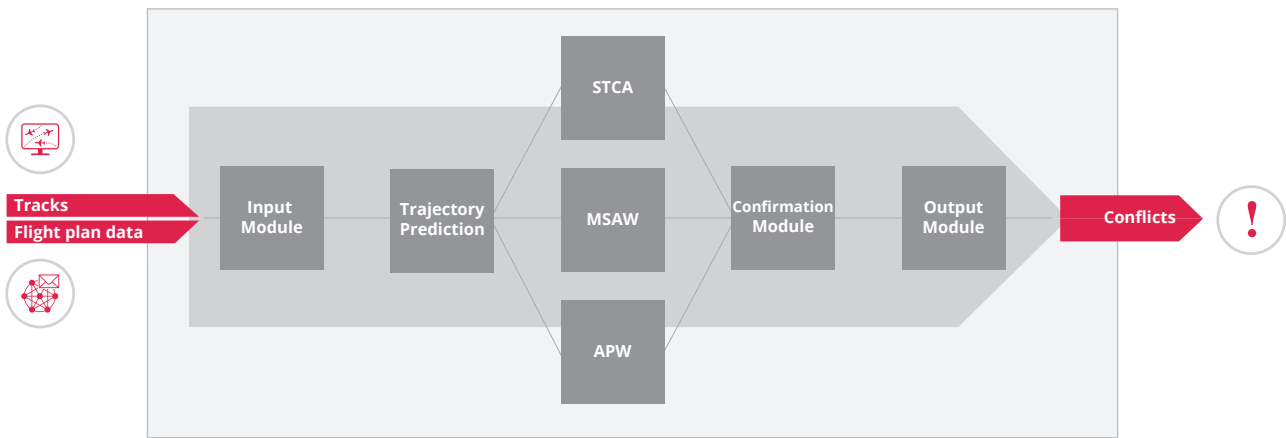
#### User Benefits

As a modular component of the full surveillance chain from Frequentis Comsoft, SafetyNets also integrates easily with existing and future third-party solutions. The tool provides an additional layer of safety by highlighting both deviations from plans as well as potential short- and medium-term conflicts between aircraft.

With the ability to handle standard ASTERIX Cat004 output, SafetyNets offers plug-and-play compatibility with other technologies. Immediate alerts to safety-critical events help ensure that Air Traffic Controllers can take preventive measures in a timely fashion.

#### Highlights

- Delivers timely forewarning of potential risks to aircraft
- Helps ensure safe take-offs, transits and landings
- Detects deviations from planned course and altitude, depending on Flight Data Processing System
- Provides clear alerts in the event of imminent safety issues



SafetyNets architecture

## Key Features

**Trajectory prediction:** forecasts future position of aircraft based on current position and performance indicators.

**Multiple models for conflict probing:** increasing the forecast time interval automatically raises the required safety margins.


**Conflict detection:** short-term detection of potential conflicts based on thresholds and alert triggers defined by the customer, including estimates of conflict probability and time-to-conflict.

**Confirmation of potential conflicts:** helps the controller in the case of uncertainty around a potential critical situation, providing the option to reduce the number of alert notifications per incident to a minimum of one.


**External alert triggering:** enables the HMI to notify the user via audio and/or visual alerts.

**Route and cleared level adherence:** highlights deviations between planned and actual course and altitude.

## Selected References

 **AirNav Indonesia in Jakarta, Indonesia:** using SafetyNets with PRISMA ATM system to assist controllers. The solution pairs surveillance data with current flight plans, presenting integrated information to the Air Traffic Controller (ATCO).

 **General Civil Aviation Authority (GCAA) in Abu Dhabi, UAE:** using SafetyNets (including STCA, MSAW, APW, and CLAM functionality) with PRISMA ATM system to increase safety in the complex, crowded UAE airspace.

 **Slovenia Control in Ljubljana, Slovenia:** using SafetyNets to help ATCOs maintain safe separation of aircraft in Slovenian airspace.