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SKYSOFT SERVICIOS S.A.

INTERNET FLIGHT PLAN

SKS-iFPL

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INTRODUCTION

Operational requirements have taken **Skysoft Servicios** to offer a new product that promise to transform the way in which Air Traffic Control Services are offered in Airports, with real security, operational advantages and efficiency: the **INTERNET FLIGHT PLAN**.

Skysoft Servicios, has identified operational needs and possible areas for improvement to existing operational protocols and technology. Digitalization and the possibility of using the WEB to access and conform flight plans, will enable more efficient and agile procedures, bypassing unnecessary bureaucracy, improving control and providing an all round better experience for the users as well as for the administrators in charge of processing these flight plans.

THE PROBLEM

Worldwide expansion of aviation continues, new airfields are open, air traffic increases exponentially, leading to more complex operational scenarios. In order to manage this new complexity and increased air traffic, new processes and technology are required that will help to simplify and improve the flow of information and its management.

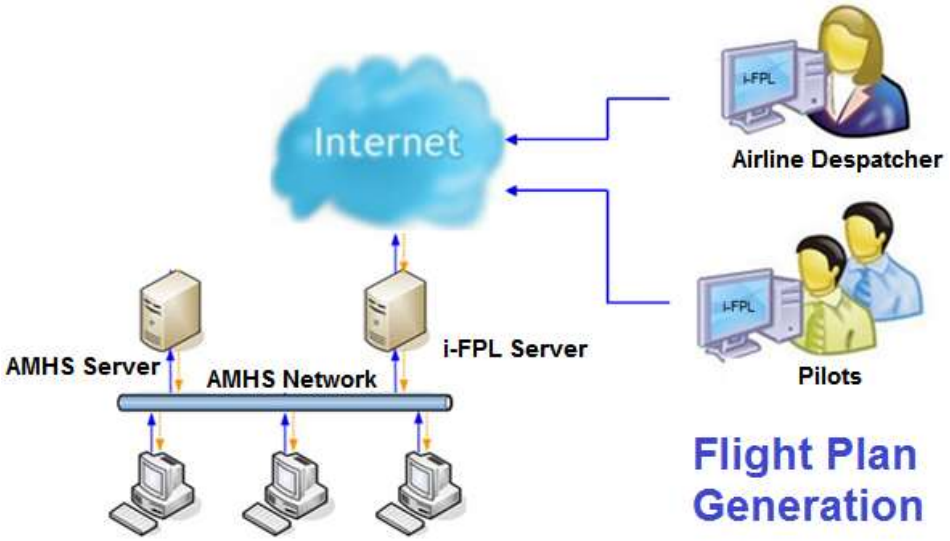
Currently flight plans are completed and presented by the pilot or the airline despatcher in person, often handwritten on preprinted forms. Once the flight plan is complete and has been signed, the form is taken to the ARO-AIS/Communications office for manual transcription and final formatting to be sent as an AMHS message to the required destination/s as stated in the flight plan.

This ancient way of working, although efficient in the early days, does make it difficult to file, audit and control flight plans. This system also increases the room for mistakes to be made, wastes time and the use of resources is inefficient.

It is to solve this problem that **Skysoft Servicios** has developed it product SKS-iFPL.

THE SOLUTION

SKS-iFPL is a system that enables all registered users to prepare and present Flight Plans via Internet. It is accessed through a web site, belonging to the entity that manages this process, from any remote location with internet access. It aims at supporting Civil Aviation Authorities, by increasing operational security in the transfer of information between operational security personnel and the air navigation personnel.



USER REGISTRATION

The registration method is that used by many web sites, where the user accesses on a one-time basis, introduces his/her personal information, including a username and password. Once this registration has been accepted, the **i-FPL** system will send out confirmation email to the registered email address. Once the link in the email is open registration will be complete.

In addition, and independent to this process, the System Administrator can intervene and confirm or deny registration, as well as modify user information.

Once a user is registered, access is available to all system functionality by just logging in to the system with username and password as included in the registration.

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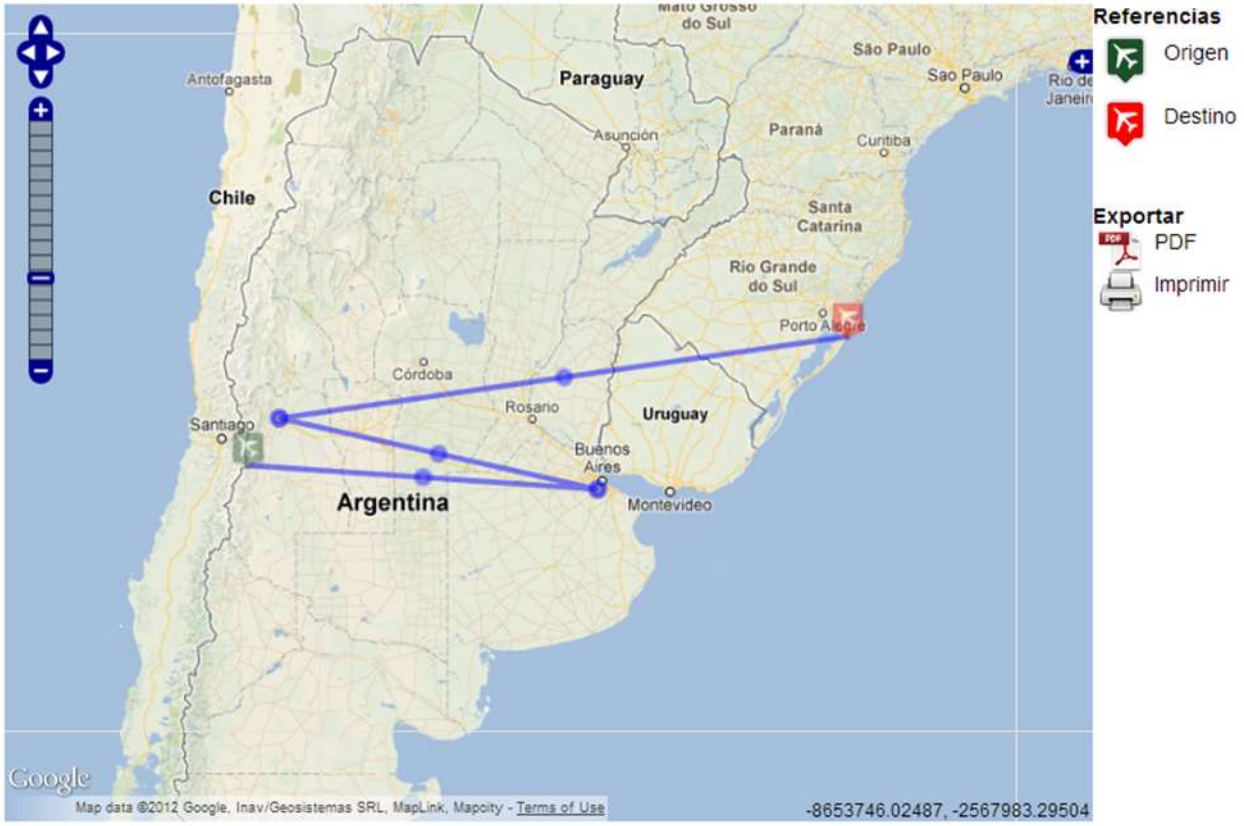
A) New Flight Plan creation

As a first step the user must specify his/her license number and the aircraft registration identifier.

The system can be linked to different data Banks including one that contains all pertinent pilot, aircraft and airfield data, this will enable improved control and validation of licenses, aircraft air worthiness, airfield condition and any other parameters that are deemed essential to approval of the presented flight plan.

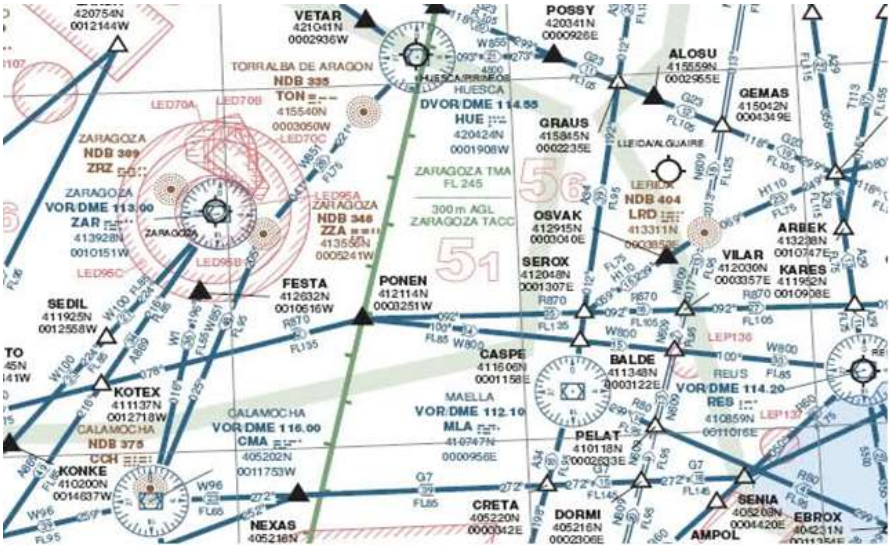
The next step is to load the relevant flight information in the electronic form, like that of a preprinted form, specifying amongst other data the departure and destination airfields, and any alternatives available. Based on this information, **i-FPL** can suggest or show the last routes used to join specified departure and destination airfields.



B) Charts, assistance and validation

If the route is loaded manually, **i-FPL** will validate it according to current available flight charts, as stored in the Chart data Bank.

The system itself provides assistance by being user friendly and enabling data validation as well as variants to be consulted for each field to be completed by using drop down menus, with aircraft, airfields and other required data tables, add to this on line assistance for each applicable field as well.



C) Processing and encryption

Once the data has completed and validated, the user may securely send the Flight Plan.

The Flight Plan is received and decrypted by the **i-FPL** server. This will automatically generate an AMHS message (under X.400 protocol) containing the Flight Plan data. The recipients of this AMHS message will be automatically selected from a predetermined list, based on departure and arrival information, also including the alternatives that may have been listed in the Flight Plan by the user.

Using local TCP/IP connectivity, an X.400 P3 protocol connection, **i-FPL** will automatically send the AMHS message to the MTA X.400 server at the local Aviation Authority, with a requirement to generate Delivery Reports (DR) for each destination.

Once the **i-FPL** receives all the DR messages, it will accept the Flight Plan as sent by the user. Whilst the message is queued waiting for the arrival of the DR it will remain in a “pending” status as far as the remote user is concerned.

Should one or more DR not arrive within a reasonable time, or should a Non Deliverable Report (NDR) arrive, the message will be sent to a supervisor AMHS terminal at the same time as informing this situation to the **i-FPL** supervisor and control terminal so that a supervisor may analyze the problem and assist the user in solving the issue.

D) Follow up and control

The remote user will be capable of controlling all generated Flight Plans via a list or report, showing which were sent, and which are in a queue in the server waiting for a DR.

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E) Viewing and printing

The user may see and/or print the generated Flight Plan, enabling signature if required for any formal presentation.

F) Cancellation and delays

Once the Flight Plan has its assigned “sent” status the user may Cancel or Delay the generated Flight Plan with a single click, once this has been confirmed, **i-FPL** will automatically generate a Cancellation Report (CNL) or a Delay Report (DLA) in accordance with ICAO standard formats.

G) AIS/MET.

The **i-FPL** system offers the possibility of fast, up to date, on-line consultation of complete Aeronautical NOTAM information, meteorological information, airfield chart information, based on the specific data Banks linked into the network being used.

H) Applications

The system will have access to other subsystems that complement **i-FPL**.
These include, where installed, a pilot data Bank, an Aircraft data Bank with all relevant permits, licenses and relevant data such as the SKS-A8 (Annex 8) also developed by **Skysoft Servicios**.

ADVANTAGES

The **i-FPL** system has been developed as a secure technology system that enables planning, preparation, consults and presentation of Flight Plans via Internet, with no

timeframe or location restrictions.

- It interacts seamlessly with various data Banks (NOTAM, OPMET, Chart, Pilot, Aircraft, Airfield) making available all the required information to successfully prepare a Flight Plan with full data validation.
- It is simple and efficient enabling savings related to operational processes associated with manual Flight Plan management.
- It increases the secure management of the information.
- The field validation reduces the risk of human error present in manual document management.
- It is an important step in the direction of modernization and positive image of the Aeronautical Authority of any country.

These factors contribute to a better service, significant improvement of operational processes, related to quality, speed, efficiency, security, audits and operational costs.

CONCLUSIONS

Internet Flight Plans (**i-FPL**) is a work efficient solution that enables a reduction of operational costs, an increase in revenue, all whilst running a completely secure and auditable solution.

On an operational level, the benefits of information validation, speedy loading and processing, efficient and effective aircraft movement monitoring and loaded information are significant to a smooth operation by any Civil Aviation Authority.

A small fee paid by every instance of creation and presentation of a Flight Plan make this a cost-effective system as well, generating another revenue stream for the operating organization. It also reduces direct personnel participation, reducing operational costs, a significant issue when compared to traditional operational methods, with no automation or efficient information corroboration systems.

Together these factors make is a product that generates a fast Return on Investment (ROI), making it a very attractive and easy to justify investment, when linked to the operational benefits as well.

Skysoft Servicios S.A. is an Argentine company ISO 9001:2015 certified for its developments. Our commitment to operational and technological quality are second to none. That is why we seek that all services offered by the **i-FPL** cover all the operations defined by ICAO Doc. 4444 Procedures for Air Navigation Services: Air Traffic Management, International Standards and Recommended Practices Annex 11 and its amendments (Air Traffic Management), 9426 (Air Traffic Planning Services Manual) and 9476 (Ground Control Movement and Systems Guidance Manual), as well as the AFIS Eurocontrol Manual.