NEURALCAST
ROUTECAST

Solutions in Critical-Mission Systems for Air Navigation Aid and Air Traffic Control

IACIT works in the development of software and hardware systems in sensing and weather forecast areas.

NEURALCAST and **ROUTECAST** are two new solutions for mission-critical systems for air navigation aid and air traffic control.

NEURALCAST and **ROUTECAST** are tools intended to be integrated to the air traffic system having as main users air traffic operators, who will use the products generated as support for weather forecasts, in addition to the air traffic controllers and other external users such as airlines and pilots.

With the use of the involved technologies will be possible to obtain faster travels, with less fuel expenditure and more accurate and comfortable flight routes. One of the most striking features is the decreased risk for the aircrafts in flight, with the early identification and monitoring of extreme weather situations.

The expectation of operating gain is huge, since both systems are additional tools for short-term decision-making, involving both the air traffic control, regarding the management of airports.

The **ROUTECAST** and **NEURALCAST** products represent the cutting edge of technology in this market niche and are aligned with the innovative concept of Performance-Based Navigation (PBN). This concept is today considered a determining factor for the yaw by which air transport will pass in the coming years.

IACIT®

Solutions of Critical-Mission Systems for the Air Navigation Aid and Air Traffic Control

NEURALCAST

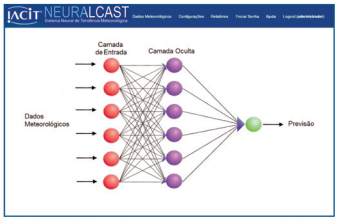
NEURALCAST is a system that uses artificial neural networks to generate information on weather trends of ceiling, visibility, occurrence of gusts, wind speed and direction, for a horizon of up to 3 hours, using information from the aerodrome own stations.

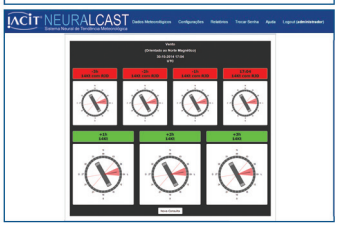
Based on a ten-year database of climatological information, an extensive scientific research was conducted which resulted in the training of artificial neural networks, whose purpose is to forecast of meteorological parameters of interest for aerodromes.

The system has a web interface where users can directly access trend graphs and register to receive automatic alerts when the trends indicate that the airfield may enter or leave operational restriction.

Features:

- Automatic sending of warnings;
- Built using state of the art technology;
- Access control per user and user group;
- Robust database to store large volume of data;
- High performance processing weather trends;
- Easy integration with other systems;
- High degree of flexibility for other locations;
- Crosswind detection in relation to the runway;
- Valuable information to the command tower supporting its decision-making;
- Web service able to provide trend information to other systems.





ROUTECAST

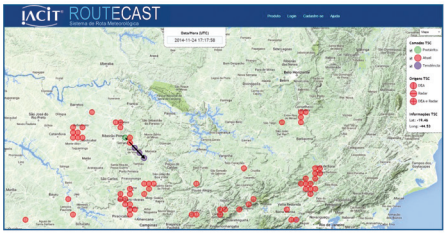
ROUTECAST is a system which purpose is to identify the volume or area of airspace under effect of weather formations that may present a risk to aircraft on route, such as Cumulonimbus clouds (CB), allowing monitoring the severe events and predicting the displacement for a projection of up to 30 minutes. The system uses as sources whether radars and sensors of atmospheric electrical discharges data.

For the development of this system, IACIT counted on vast know-how in weather radar and short-term warning systems; It also invested in two weather radars, being one S-Band and another mobile X-band, to assist in the creation of the computational models responsible for processing the data resulting from the radar scans.

In ROUTECAST, the severe events are displayed on a georeferenced map, through its web interface, in addition to being supplied automatically to external systems such as air traffic control, aircraft flow management and other systems.

Features:

- Built using state of the art technology;
- Access control per user and user group;
- Robust database to store large volume of data;
- High processing performance;
- Easy integration with ATC systems;
- Web service able to provide trend information to other systems.



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Strategic Defense Company
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