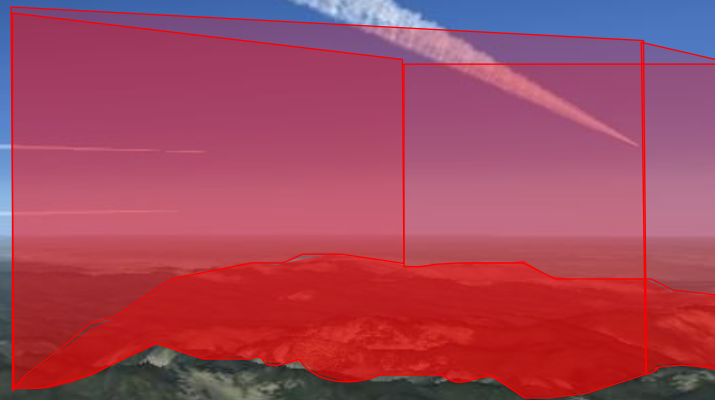




←←← **On Time** →→→
Total Airspace Management

8th Global ATFM Conference
Cancun - Mexico



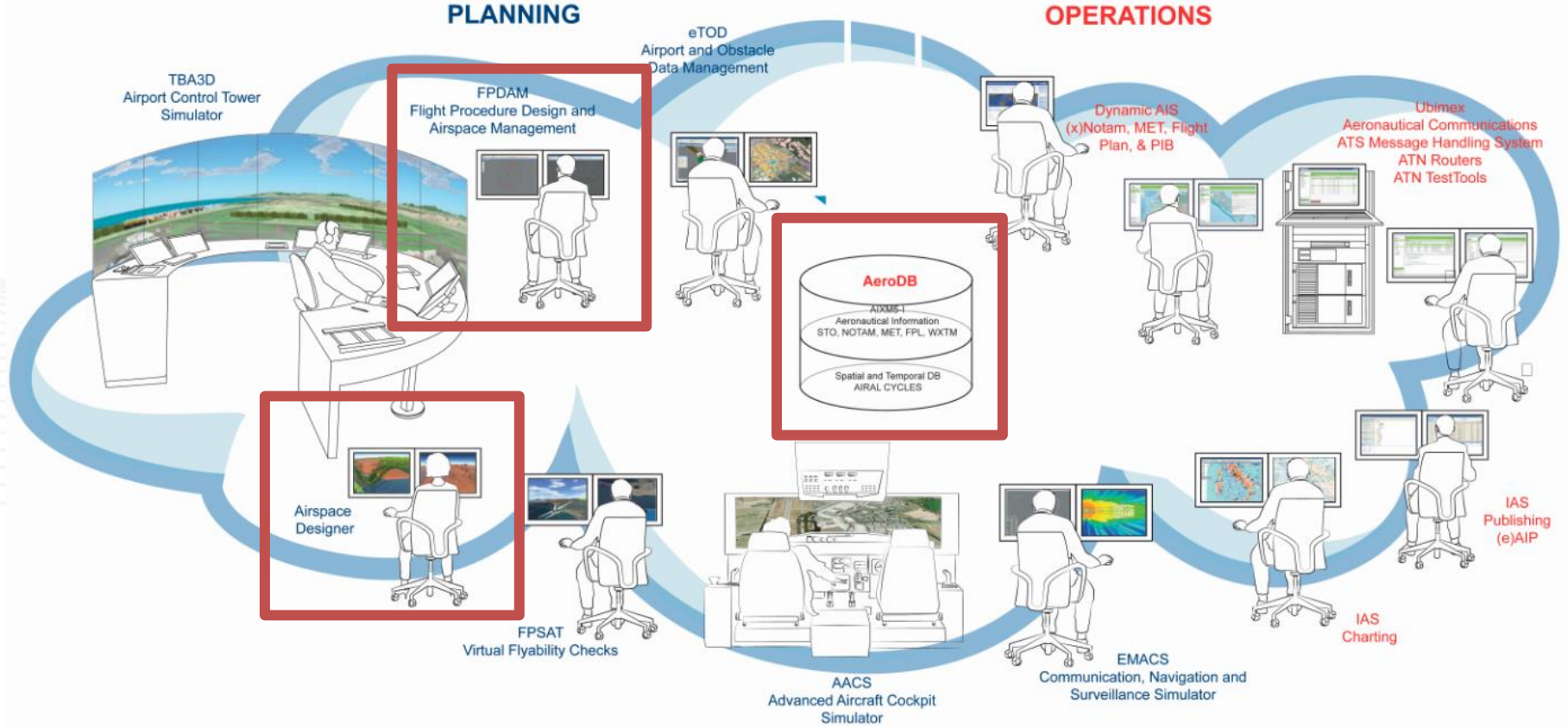


ATFM 101 Services

- Airspace capacity optimization
- Flight Procedure PBN design SID's – STARS
- Realistic Airport and sector capacity determination
- CNS evaluation and recommendations
- Training and knowledge transfer
- Staffing review
- Procedure review and recommendations
- Safety Management Assessment



IDS Offering





ICAO has endorsed IDS as a qualified instrument flight procedure design organization

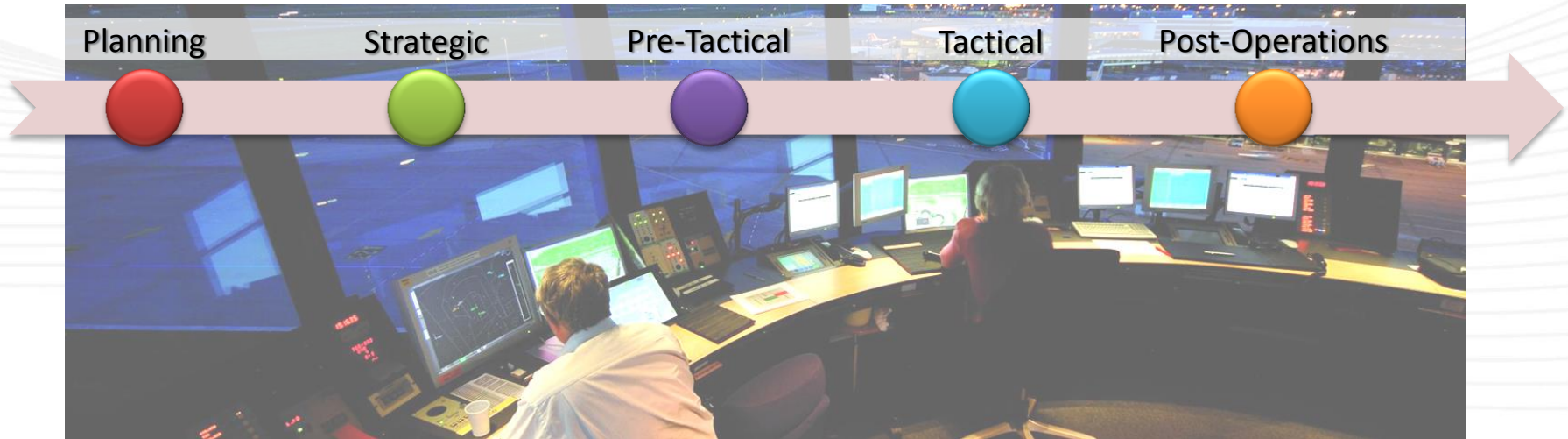
The FPDO has been recognized by the Italian CAA (ENAC) for conventional and RNAV Instrument Flight Procedure design using ICAO, TERPS and TP308 criteria

The FPDO, operating through its company expertise leveraging the specialist from the North American subsidiary, has reached a tremendous workload regime of more than 150 procedures designed per month, i.e. around 1800 per year

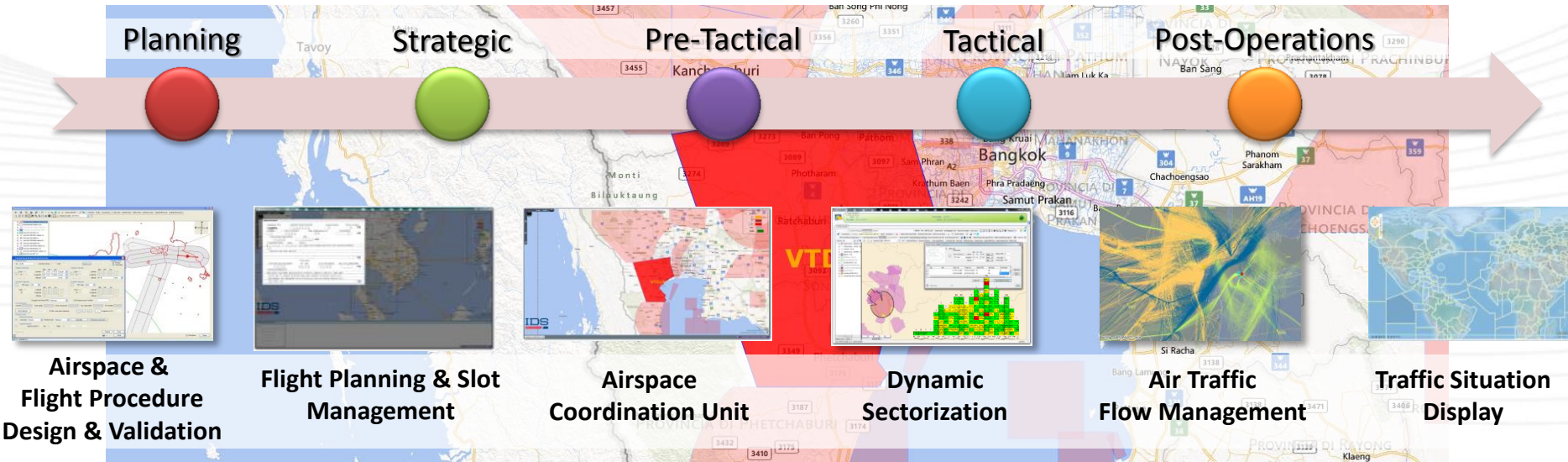
The quality system applied on the workflows, together with the robustness of the tools and the competencies of the personnel ensure the total reliability of the results.

Total Airspace Management

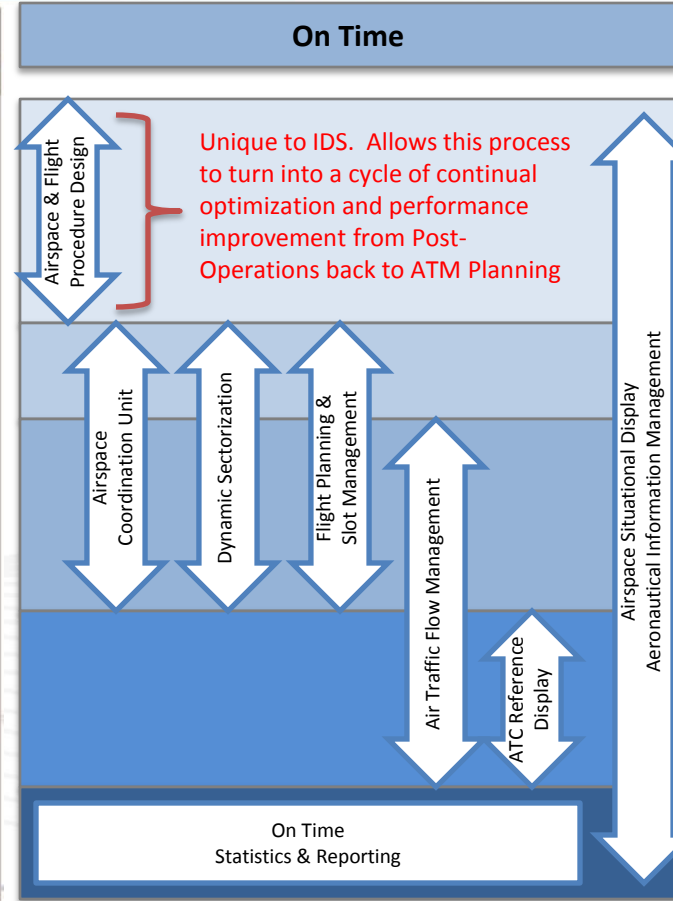
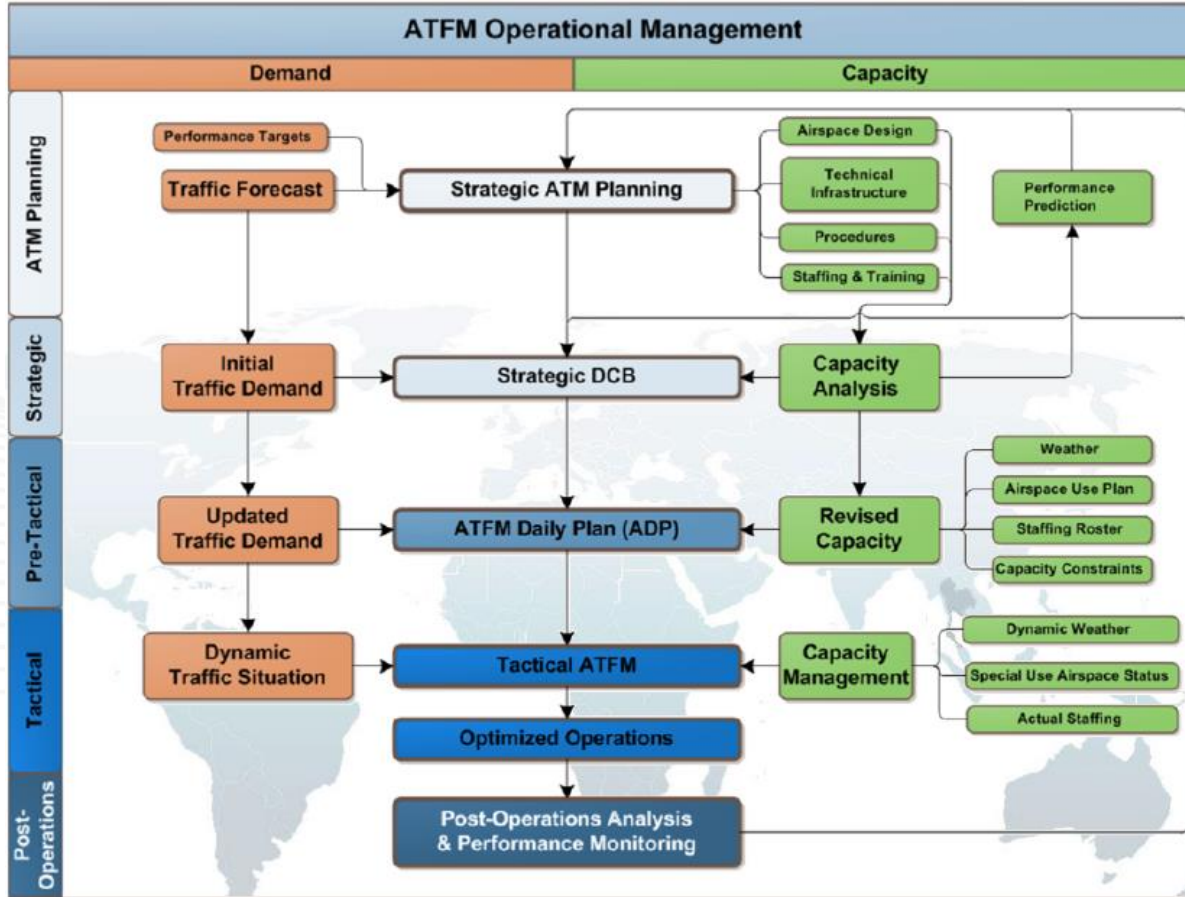
Total Airspace Management addresses the need to better manage air traffic through the practical application of Airspace Management Concepts throughout the total ATM process



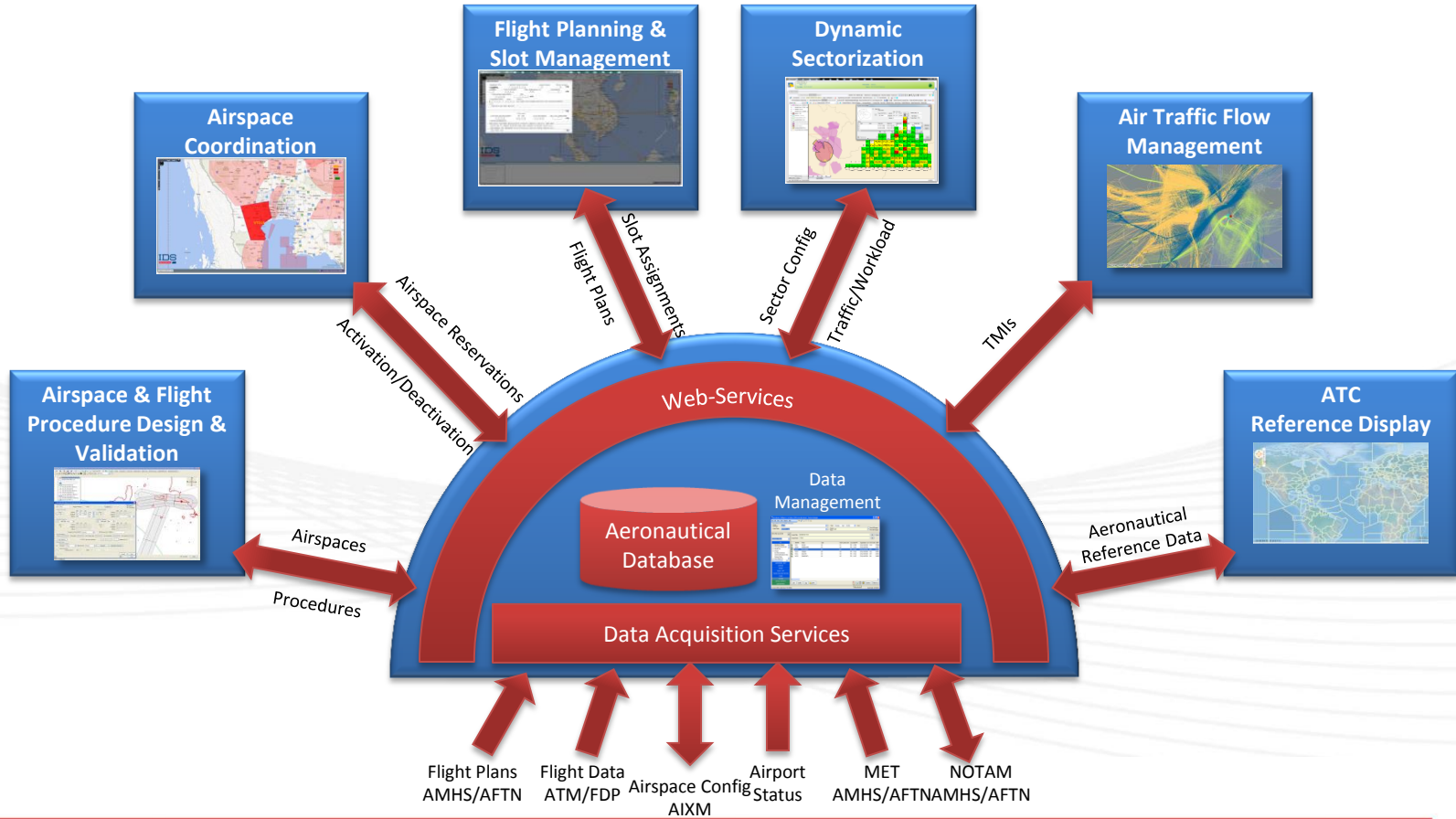
On Time is a new adaptation and enhancement of existing IDS products designed to give Air Navigation Service Providers the necessary tools to effectively meet the modern challenges of Airspace Management at all ATM stages in a collaborative way with Airspace Users

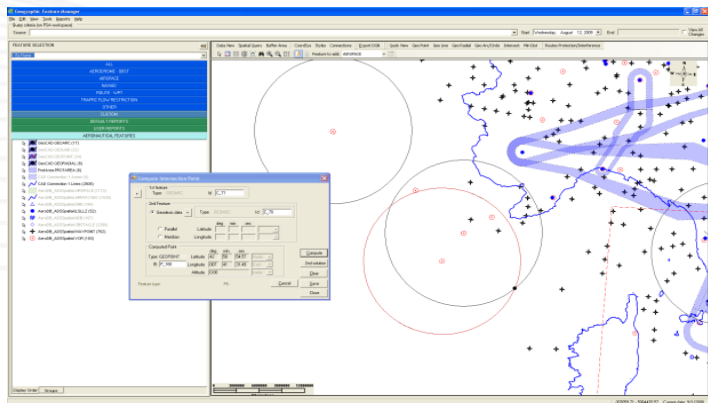
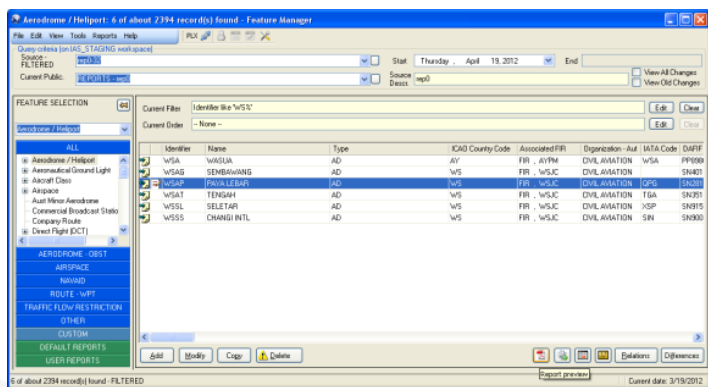


Mapping to ATFM Ops Mgmt



Conceptual View

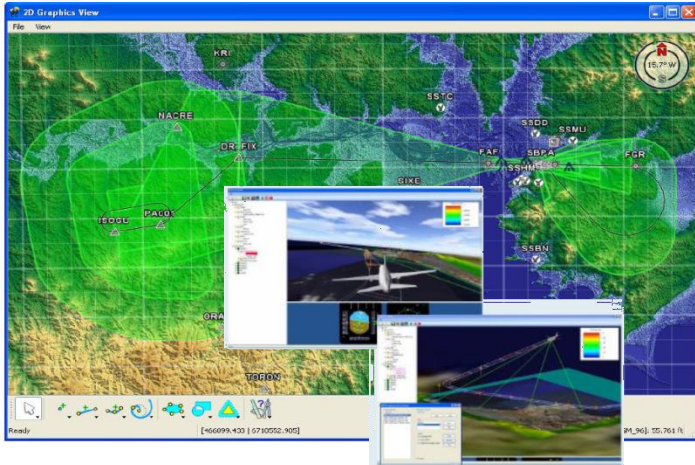
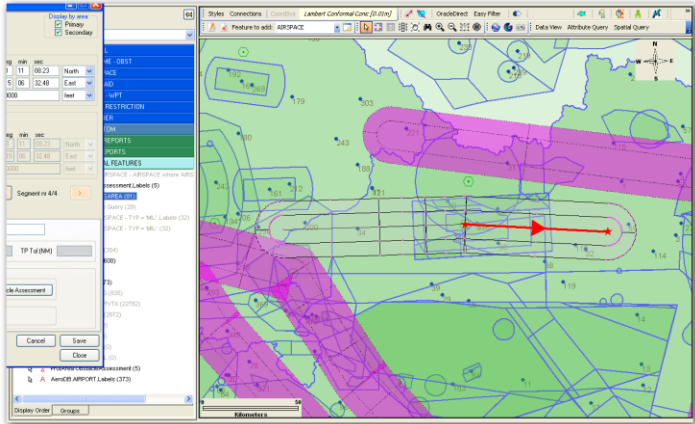




Aeronautical Data Management is key capability of On Time which is absolutely required to support the Airspace Management functions.

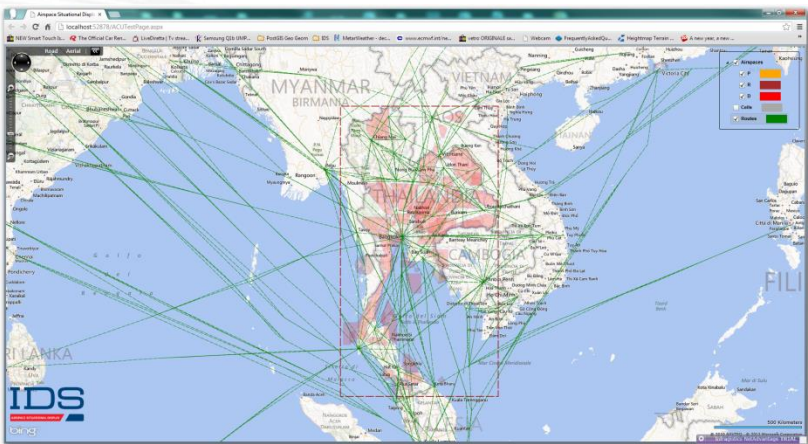
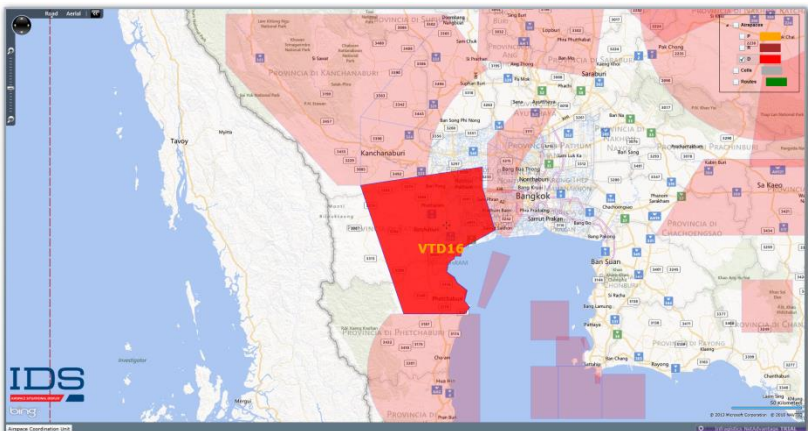
- ✦ Manage aeronautical data in AIXM v5.1 in accordance to ICAO SARPs with full temporality model
- ✦ Advance GIS tools for the visualization and editing of aeronautical data
- ✦ Import/Export of data in various formats
 - ✦ AIXM v5.1, 4.5, 4.3
 - ✦ ARINC 424
 - ✦ DAFIF
 - ✦ An many more...

The aeronautical database and data management tools are capable to be used as the National AIM database simultaneously, a key step in ICAO's "Roadmap for the Transition from AIS to AIM."



Integrating advanced **Design & Validation Tools** into the Airspace Management process at all stages provides the capability for sophisticated analysis and continual optimization of airspace structures always in compliance to ICAO SARPs and PANS-OPS.

- ✦ **Airspace Designer – Airspace Design**
 - ✦ Design of airspaces and routes
 - ✦ Analysis for lateral/vertical separation, intersections, etc.
 - ✦ Export to fast time simulation (i.e. RAMS)
 - ✦ AIXM v5.1 encoding
- ✦ **FPDAM – Flight Procedure Design**
 - ✦ Design of instrument flight procedures (PBN/Conventional)
 - ✦ Obstacle analysis
 - ✦ Procedure chart construction
 - ✦ AIXM v5.1 and ARINC 424 encoding
- ✦ **FPSAT – Ground Validation**
 - ✦ Flyability analysis
 - ✦ GNSS coverage analysis
 - ✦ DME-DME coverage analysis



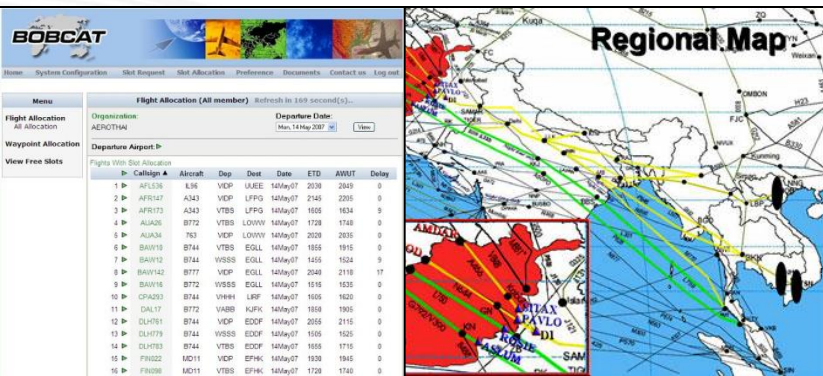
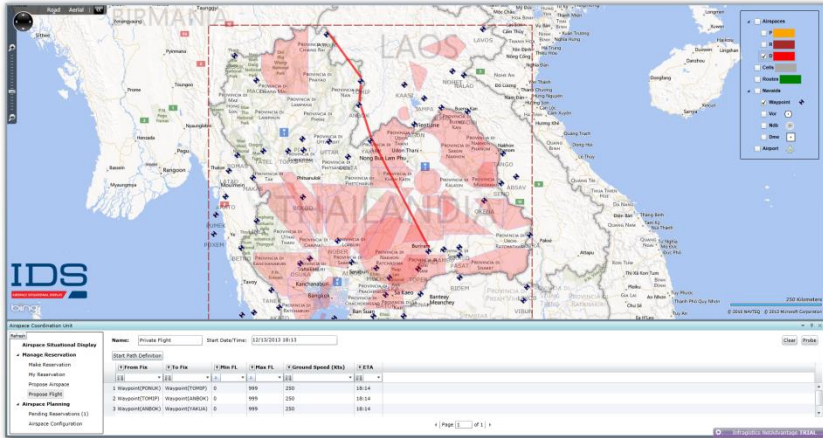
The **Airspace Coordination Unit** brokers airspace reservation requests coming from airspace users (Civil & Military) with the needs of airspace planners to manage airspace activation schedules and maintain network efficiency and capacity.

- ✦ Web portal for the submission and management of airspace reservations
- ✦ Reservations can be made using:
 - ✦ Published airspaces
 - ✦ Unpublished airspaces used for ACU purposes
 - ✦ Provisional airspace drawn by airspace users
 - ✦ Planned flight routing with buffer area
- ✦ Brokering process for balancing the needs of airspace users vs. airspace planners
- ✦ Tools for analyzing the impact of airspace deactivation
 - ✦ Intersecting airspaces & routes
 - ✦ Traffic impact using filed flight plans

Flight Planning & Slot Management

Flight Planning & Slot Management are more effective when perfectly coordinated through a common system which also manages the current & future Airspace Configuration .

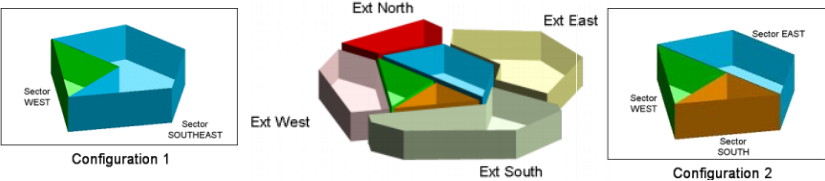
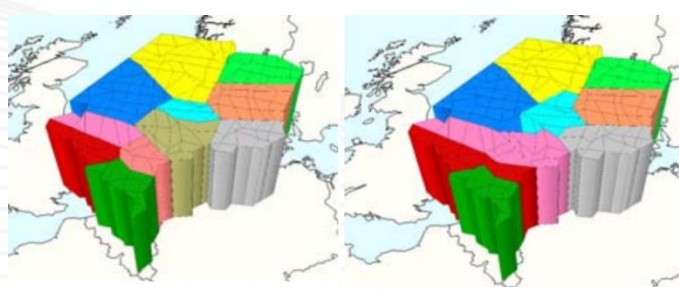
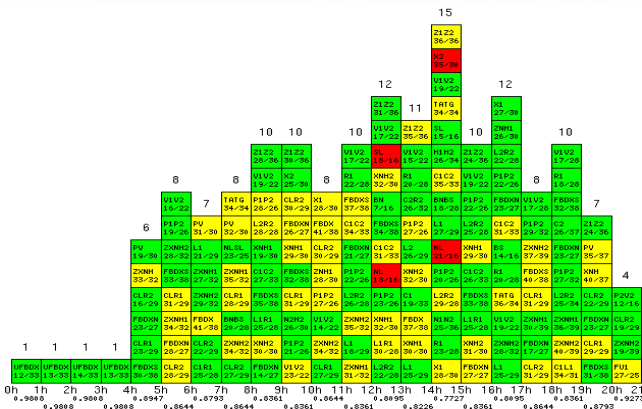
- ✦ For flight planners
 - ✦ Possible to register the flight plan and slot request in a single step or have coordinated approach
 - ✦ Probing of route/slot availability at the time of registration
 - ✦ Suggest the optimal routing considering the current airspace configuration
 - ✦ Generate the PIB
- ✦ For airspace planners
 - ✦ Assign departure, waypoint, or route segment slots with configurable separations
 - ✦ Automatic but configurable slot assignment process
 - ✦ Changes in the airspace configuration automatically identify impacted flight plans

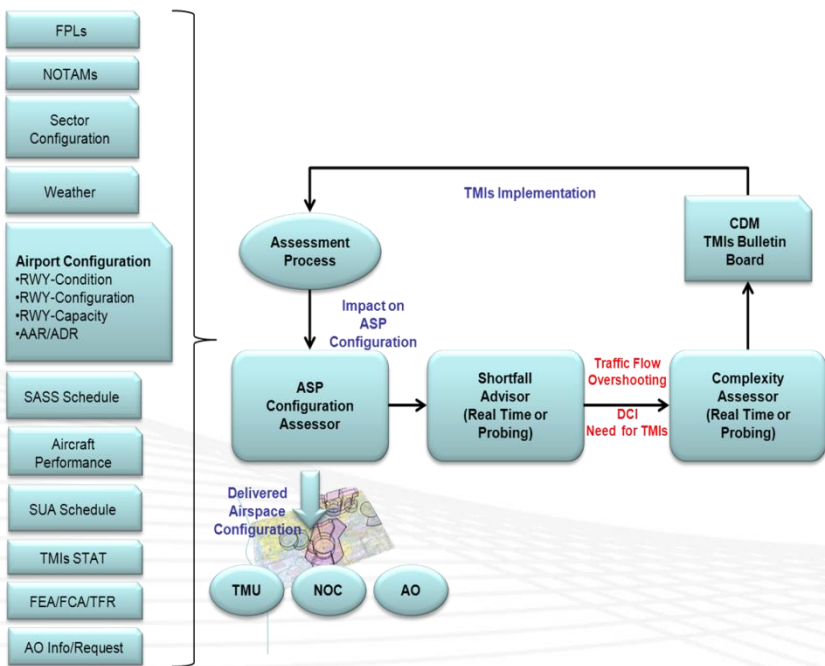


Dynamic Sectorization

Dynamic Sectorization monitors the evolution of air traffic to support re-sectorization decision-making and air traffic control centre scheduling, enabling dynamic modifications to the sector configuration for the operational ATM environment.

- ★ Allocates Airspace Volumes to Airspace & Airspace Sectors to ATM Roles & ATM Roles to CWP
- ★ Monitors traffic forecasts and identifies potential sector overloads or under utilization
- ★ Evaluates the impact of sector reconfiguration and identifies the optimal configuration
- ★ Alarms to the supervisor when configurable thresholds are achieved for overloads or traffic intensity

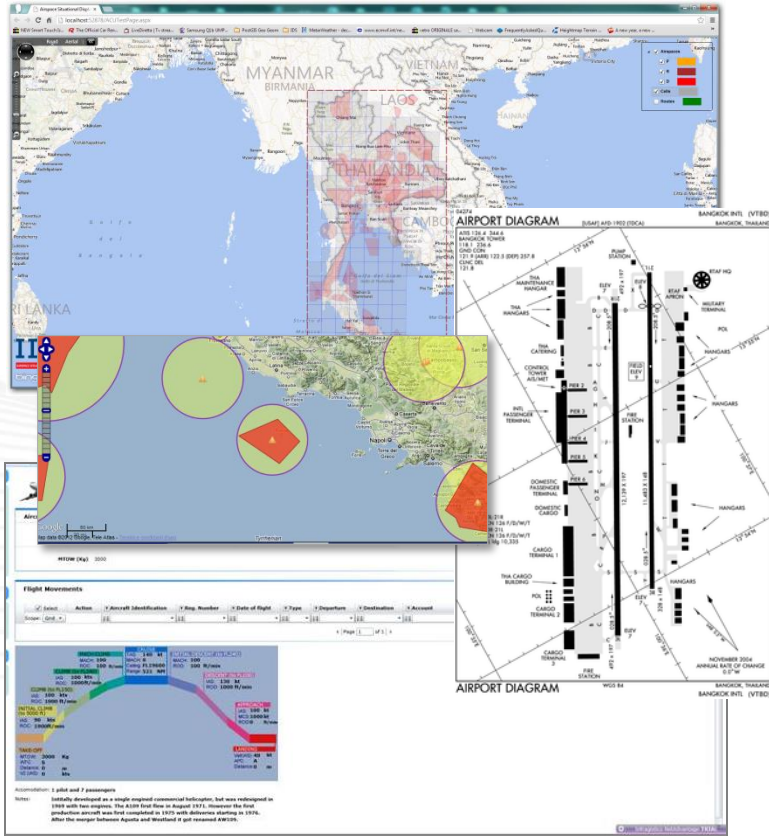




Air Traffic Flow Management provides dynamic monitoring and reassessment of the demand/capacity balance (DCB) and calculates possible TMs designed to restore DCB which are communicated to relevant stakeholders for implementation.

- ★ **ATFM monitors the following information:**
 - ★ Traffic flow volumes
 - ★ NOTAMs
 - ★ Airport configurations
 - ★ Meteorological conditions
 - ★ Airspace configuration
 - ★ And more...
- ★ **ATFM calculates the possible TMs providing documented support to various stakeholders within a CDM environment (web)**
- ★ **TMs can be submitted by stakeholders at any time**

Traffic Situation Display (TSD)



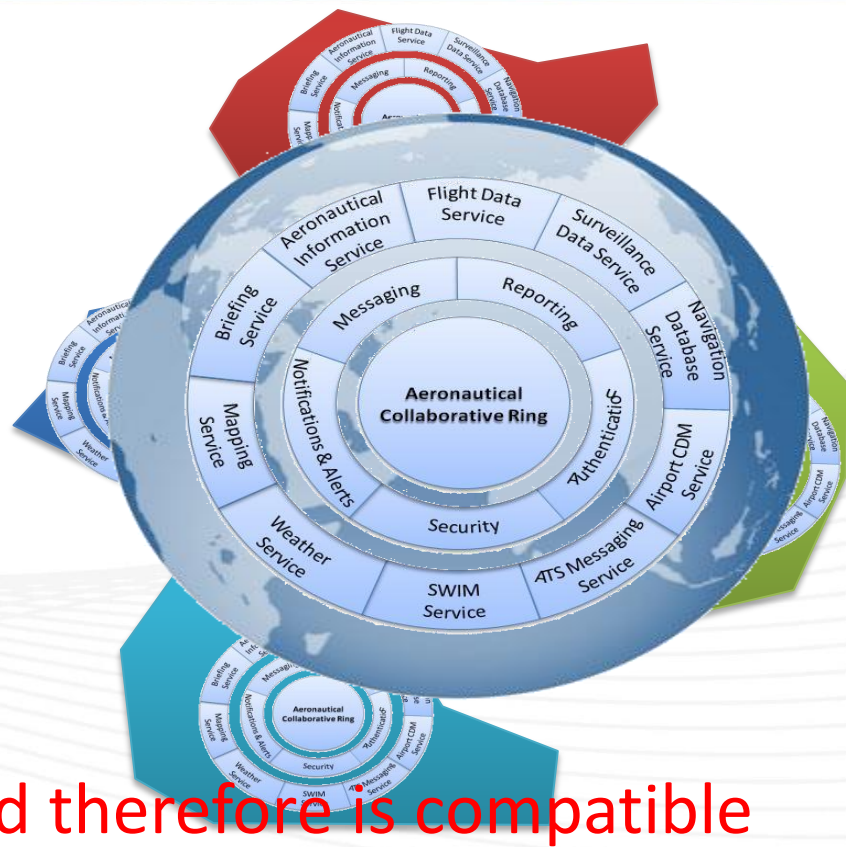
The **Traffic Situation Display (TSD)** provides the linkage between the Airspace Management functions in the Pre-tactical stage to actual ATM/ATC Operations in the Tactical stage

Supplemental display for ATC staff

- ✦ Provides situational awareness of the current airspace configuration
- ✦ Quick access to reference information
 - ✦ Static AIM data
 - ✦ NOTAMs
 - ✦ AIP
 - ✦ Charts
 - ✦ Aircraft performance data, etc.
- ✦ Specialized utilities
 - ✦ Stopwatches
 - ✦ Timers
 - ✦ Convertors
 - ✦ Distance Measure, etc.
- ✦ Means of communicating TMIs originating from ATFM to ATC for implementation

Towards Global ATFM and SWIM

- **Local** Individual states implement
- **Regional** Through bi-lateral coordination,
- **Global** As ACR implementation expands at the national and regional level, global coordination can occur



ATFM is SWIM-compliant and therefore is compatible with other non SWIM infrastructure

NOC Community Notices**NOC**

The National Operations Centre is located at 1601 Tom Roberts Avenue in Ottawa.

If you have any questions or concerns please contact Dave Rome at 613-248-4086

Please take note: Some of the links provided by this community are external to NAV CANADA. To access these sites, you are required first to logon through the firewall.

Notice to NAV CANADA employees:

For access to the NOC Community and/or NOC Applications, please submit your request online by using the NAV CANADA Helpdesk Software Request Form. You can access this Helpdesk form from the NAV CANADA intranet site.

**CAN ROUTES - proposed
CAN ROUTES****Operational Information System (OIS)****OIS****NOC Applications****Airport Performance Monitor**

- Calgary
- Edmonton
- Toronto
- Vancouver
- Airport Arrival Rates (AAR)
- IIDS Web View (Wind, RVR, ILS Status)

NAT Traffic Density Analyzer (TDA)

- Eastbound
- Westbound

NOC Reporting

- Aviation Occurrence Application (AOA)
- NLog
- NLog econference
- DFDS

Tactical Resources**Welcome****National Operations Centre**

Welcome to the NAV CANADA National Operations Centre. Our mission statement is SAFETY first. Enhancing Air Traffic Management with improved tactical planning and a rapid response capability.

The Centre is designed to help reduce costs and delays to our customers by using a Collaborative Decision-Making model to implement Air Traffic Flow Management (ATFM) initiatives across the Canadian Air Navigation System (ANS).

[Suggestions / Comments](#)

[Help](#)

NOC Community Discussion

Post Search Subject

#	Subject	Author	Date
138	NOC CANADIAN ANS OUTLOOK SEPT 12, 2007, 1030Z	Corp\brombec	2007-09-12 13:48:12
137	NOC CANADIAN ANS OUTLOOK SEPT.11/07 1030Z	Corp\BartITT	2007-09-11 11:03:33
136	NOC CANADIAN ANS OUTLOOK SEP.10/07 1330Z	Corp\BartITT	2007-09-10 14:33:16
135	NOC CANADIAN ANS OUTLOOK SEP.10/07 1030Z	Corp\BartITT	2007-09-10 13:14:09
134	NAV CANADA RANDOM ROUTE TRIAL	Corp\BartITT	2007-09-10 13:13:21
133	NOC CANADIAN ANS OUTLOOK SEP.09/09 1030Z	Corp\BartITT	2007-09-09 10:48:29
132	NOC CANADIAN ANS OUTLOOK SEP.07/07 1330Z	Corp\ClarkeM	2007-09-07 13:44:00
131	NOC CANADIAN ANS OUTLOOK SEP.07/07 1000Z	Corp\LepoutL	2007-09-07 10:30:11
130	NOC CANADIAN ANS OUTLOOK SEP.06/07 1000Z	Corp\ClarkeM	2007-09-06 12:00:39
129	NOC CANADIAN ANS OUTLOOK SEP.04/07 1000Z	Corp\brombec	2007-09-04 11:10:30

[More...](#)

Air Traffic Management**CFMU & EuroControl Resources**

- CFMU ATFM Information Messages
- CFMU Main Site

Zulu Time

2007-09-12 **19:41:19z**

Weather Resources**Aviation Specific Weather Sites**

- Aviation Weather Center - CCFP Scrolling Display
- Lester B. Pearson Current Wind Data
- NAV CANADA Weather, NOTAMS & PIREPs
- Universal Weather & Aviation Inc.
- Volcanic Ash Advisories
- NWS Graphical Turbulance forecast

Weather Sites

- Aviation Weather Center
- Canadian Hurricane Centre
- CIWS - Map - Corridor Integrated Weather System
- Environment Canada
- intellicast.com - Weather
- MSC
- NOAA - National Weather Service
- NOAA Space Weather
- NRCan- Space Weather
- The Weather Network

Airlines, Airports and Associations**Airlines & Airports**

- ADM
- Air Canada JAZZ
- Air Canada
- Calgary International Airport
- Greater Toronto Airports Authority
- Halifax International Airport
- Ottawa Airport
- Vancouver International Airport
- WestJet
- Winnipeg Airport Authority



Runway Configurations [Edit](#)

APRT	Arr Rwy	Dep Rwy	AAR	Details
CYUL	24L/R	24L	42	
CYYZ	23/24L	23/24R	56	
CYYC	34/28	34/28	35	
CYVR	08R/08L	08R/08L	48	

Ground Delay Programs [Add](#)

[Help](#)

APRT	Start Date / Time	End Date / Time	Scope	Reason	ADVZY No.	Edit	Remove
KLGA	12/1600	13/0159	CYYZ, CYOW, CYUL, CYHZ	Weather	031	Edit	Remove
KSFO	12/1615	12/2159	CYEG, CYVR, CYYC	Weather	039	Edit	Remove
KEWR	12/1728	13/0159	CYYZ, CYOW, CYUL	Construction	037	Edit	Remove

Ground Stops [Add](#)

[Help](#)

APRT	Start	End	Scope	Reason	ADVZY No.	Edit	Remove
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There are currently no Ground Stops in effect.

Restrictions [Add](#)

[Help](#)

Area	Start Date / Time	End Date / Time	Affected	Details	Originating Unit	Providing Unit	ADVZY No.	Edit	Remove
------	-------------------	-----------------	----------	---------	------------------	----------------	-----------	------	--------

There are currently no Restrictions in effect.

Routes [Add](#)

[Help](#)

Route	Start Date / Time	End Date / Time	MIT	Departure	Destination	ADVZY No.	Edit	Remove
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There are currently no Routes in effect.

Outages [Add](#)

[Help](#)

This is not a complete list of Service Availability. Please consult current NOTAMs for complete information.

Location	Start Date / Time	Expected Stop Date / Time	Details	Reason	NOTAM	Maximo WO#	Edit	Remove
----------	-------------------	---------------------------	---------	--------	-------	------------	------	--------

There are currently no Outages in effect.

Flight Checks [Add](#)

[Help](#)

Location	Start Date / Time	Expected Stop Date / Time	Details	NOTAM	Edit	Remove
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There are currently no Flight Checks in effect.



IIDS WebView - CYVR, VANCOUVER INTL

[Index](#)

CYVR information

Wind Direction: 220 Wind Speed: 07 Gusting: -- Altimeter: 30.00 Updated: Sep 12 2007 18:30Z

Runway	RVR A	RVR B	RVR C	Light Setting	LOC	GP	DME
08L	6000'+	6000'+	6000'+	0	off	off	OK
08R	6000'+	6000'+		0	off	off	OK
12				0	OK	OK	OK
26L	6000'+	6000'+		0	OK	OK	OK
26R	6000'+	6000'+	6000'+	0	OK	OK	OK
30				0	N/A	N/A	N/A

Table colour coding is as follows:

Operational Status Unknown Non-operational

CYVR aerodrome



IIDS WebView v1.0

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Server time: Sep 12 2007 18:30Z

Warning: Internet Explorer will occasionally revisit this page and load an out of date aerodrome image cached from an earlier visit. This is only known to happen with IE, and only on a revisit. If the aerodrome image does not match the chart data, hit <F5> or the refresh button. Subsequent page refreshes will not experience this problem. This is a bug in IE, NavCanada is developing a workaround.

Feedback

The information on this web site is provided "as is" for informational purposes only. The information is not to be relied on for operational or commercial purposes. The user accepts



IIDS WebView - CYYZ, LESTER B. PEARSON INTL

[Index](#)

CYYZ information

Wind Direction: 310 Wind Speed: 10 Gusting: G15 Altimeter: 30.02 Updated: Sep 12 2007 18:32Z

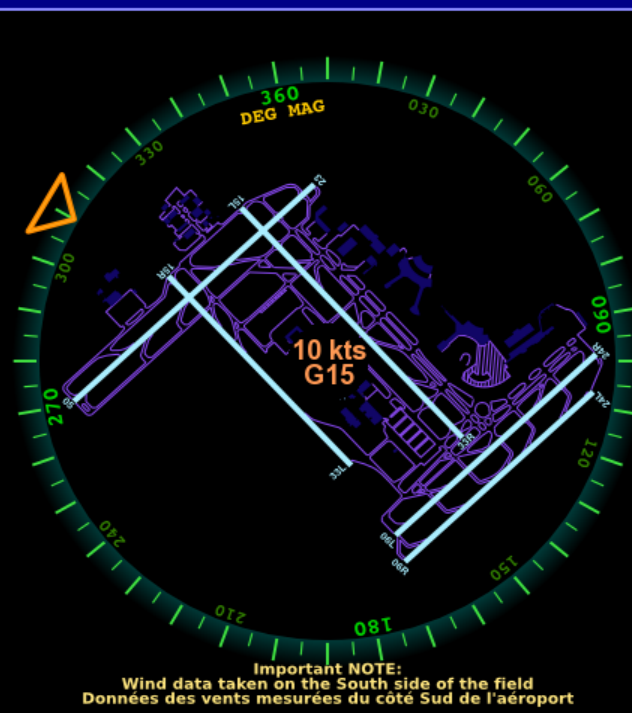
Runway	RVR A	RVR B	RVR C	Light Setting	LOC	GP	DME
05	6000'+	6000'+		0	off	off	N/A
06L	6000'+	6000'+	6000'+	4	off	off	OK
06R	6000'+			0	off	off	OK
15L	6000'+			0	off	off	N/A
15R	6000'+			0	off	off	N/A
23	6000'+			0	OK	OK	N/A
24L	6000'+			0	off	off	N/A
24R	6000'+			4	OK	OK	OK
33L	6000'+			0	OK	OK	OK
33R	6000'+	6000'+		0	OK	off	N/A

Table colour coding is as follows:

Operational Status Unknown Non-operational

Coming soon – RSC, D-ATIS

CYYZ aerodrome



Current TaF- METAR

[Feedback](#)

Surface Management Operations





Thank You

David Rome

IDS Director Business Development

d.rome@idscorporation.com

1-613-612-0847

