



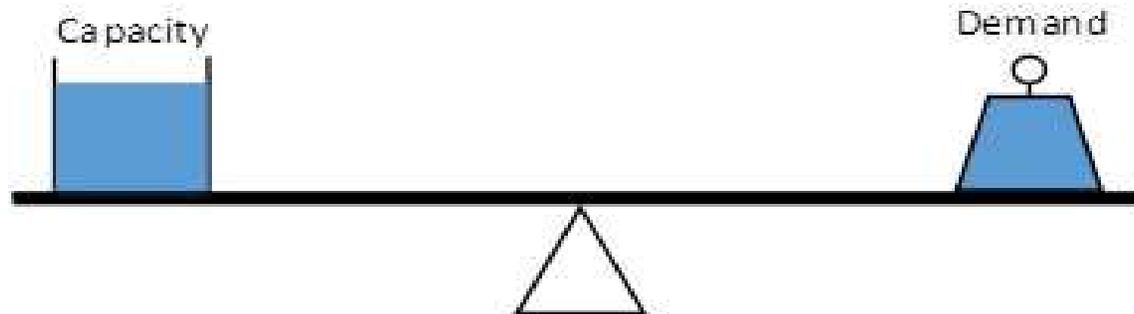
COCESNA
ATFM



INTRODUCTION

ATFM in Central America is a service established with the objective of maintaining a safe, orderly and expeditious flow of air traffic, ensuring that ATC capacity is used in the most efficient way and that the volume of traffic is compatible with the capacities declared by the appropriate ATS authority.

The efficiency and effectiveness of air traffic flow management (ATFM) contributes to the safety, cost effectiveness, environmental sustainability of an ATM system and staffing distribution due to the medium traffic demand allowing us reduce the training gaps that we have in some ATCs courses.





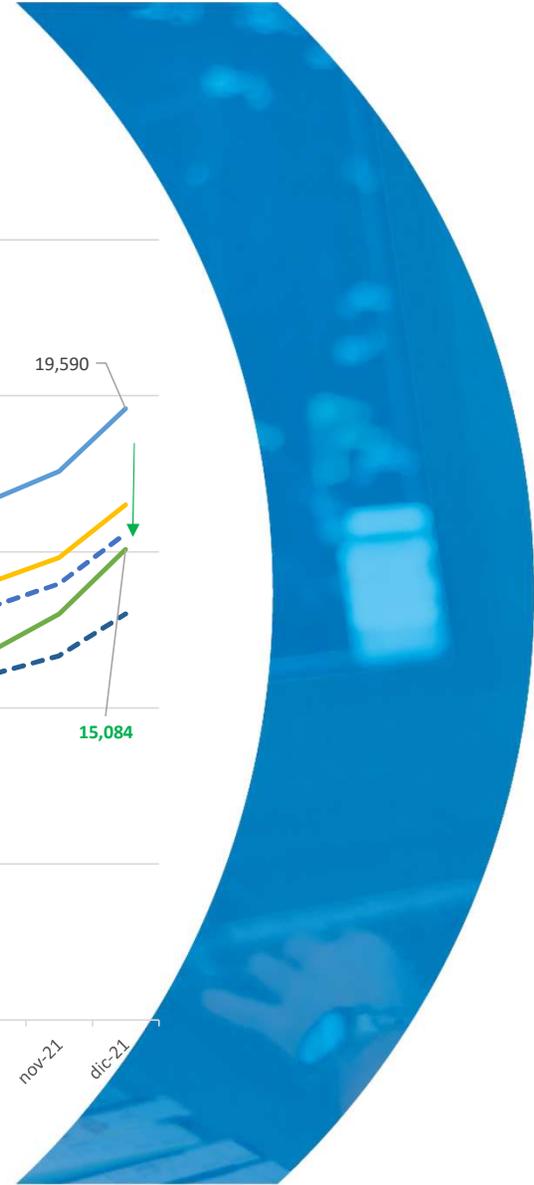
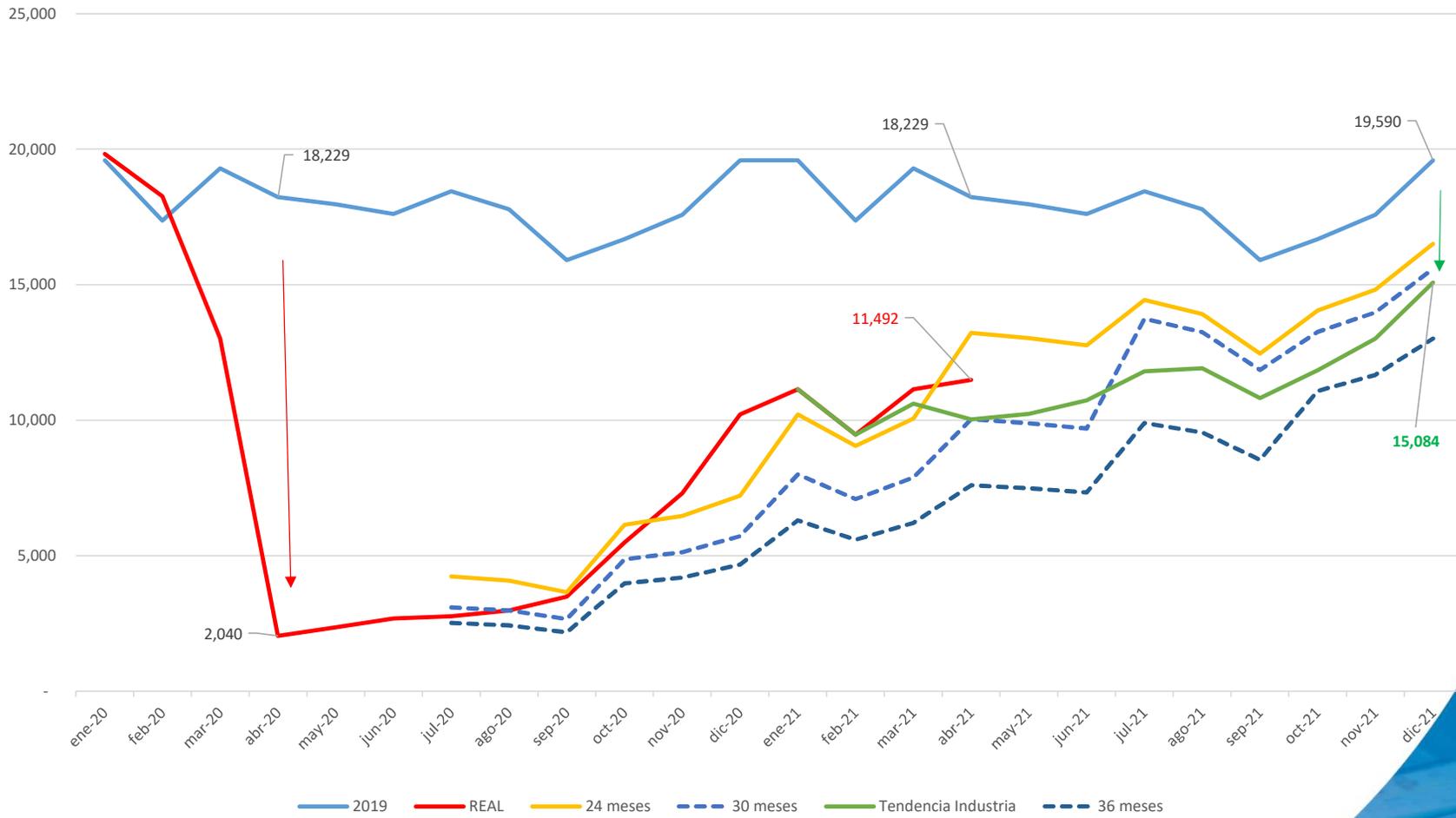
STATISTICS

Movimientos de Operaciones en la FIR CENTROAMERICA

MES	2016	2017	2018	2019	2020	2021
Enero	18,148	18,404	19,362	19,586	19,828	11,146
Febrero	18,779	16,355	17,268	17,359	18,259	9,471
Marzo	19,070	18,609	19,073	19,294	13,018	11,139
Abril	16,540	17,431	17,776	18,229	2040	11,550
Mayo	16,506	16,602	17,258	17,960	2361	10,237
Junio	16,517	16,943	17,096	17,603	2683	10,738
Julio	17,352	17,978	17,921	18,439	2,765	11,801
Agosto	16,453	16,906	17,390	17,782	2,979	11,914
Septiembre	14,386	16,509	15,331	15,911	3,488	10,819
Octubre	15,164	16,363	16,137	16,676	5,488	11,840
Noviembre	15,492	16,750	17,392	17,573	7,308	13,004
Diciembre	17,672	18,920	19,050	19,590	10,217	15,084
ANUAL	202,079	207,770	211,054	216,002	90,434	138,744
%Crecimiento Anual	7.86%	2.82%	1.58%	2.34%	-58.13%	53.42%



FORECAST





STATISTICS

Compañía	abr-19	abr-21	Dif
AAL	1585	2077	31%
UAL	1756	1643	-6%
CMP	2450	967	-61%
DAL	760	656	-14%
TAI/AVA	2251	694	-69%
SLI	510	337	-34%
AMX	933	321	-66%
NKS	515	311	-40%
VOC	367	283	-23%
UPS	232	252	9%
DAE	103	172	67%
JBU	197	153	-22%
JOS	106	149	41%
AJT	121	146	21%

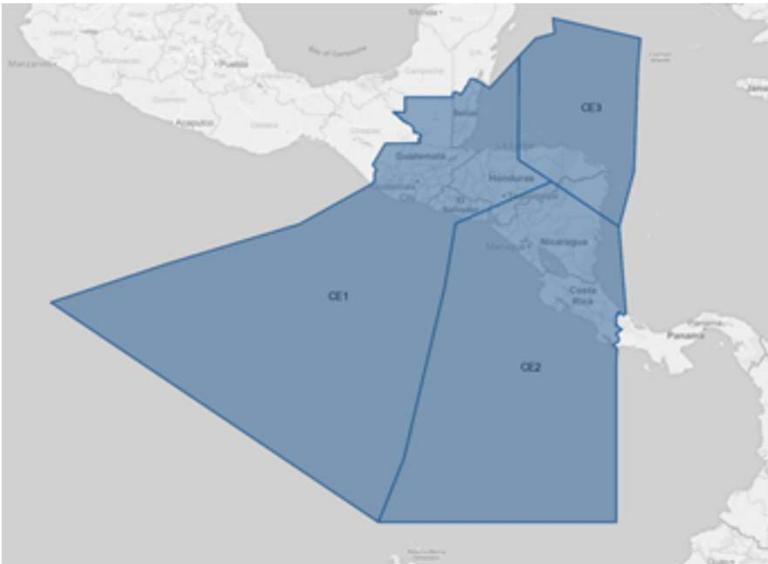




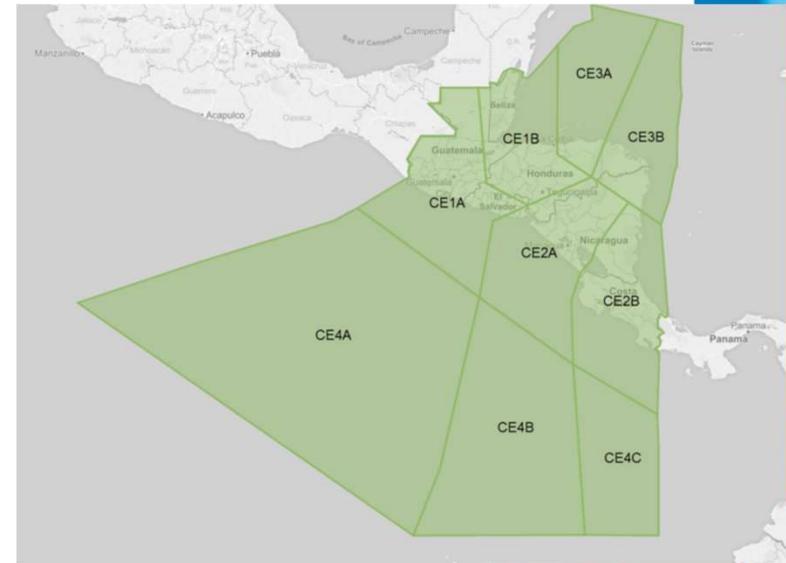
CAPACITY

- ▶ El incremento anual previsto de la demanda ATS (pre-pandemia) obligo a COCESNA incrementar la capacidad de nuestros servicios de transito aéreo, evitando que nuestra demanda supere nuestra capacidad y lograr un equilibrio entre la misma.

Sectorizacion Tradicional



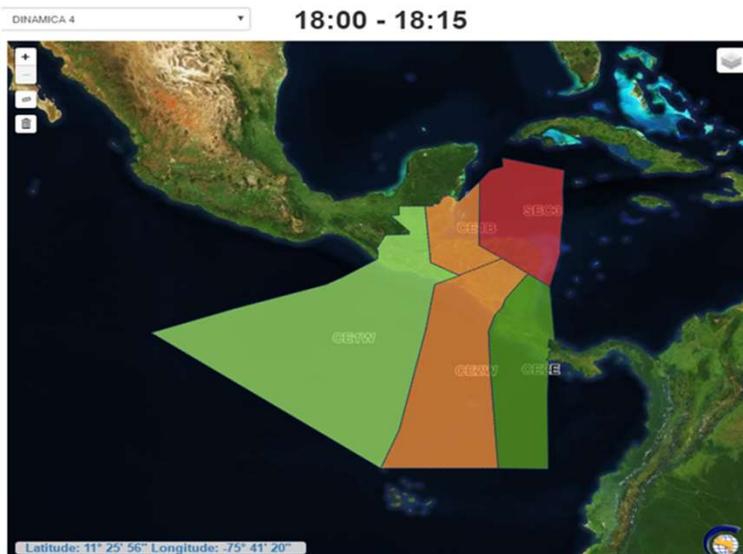
Sectorizacion Dinamica





AUTOMATION

- ▶ To maintain a balance between our capacity and demand, a tool with dynamic sectorization capacity was developed that allows the prediction and precise description of demand in order to guarantee an optimal traffic flow through efficient planning of human resources and space. CENAMER air in terms of demand.
- ▶ The main objective of the ATFM tool is to plan and develop measures to make the most of the existing ATS system capacity and increase the efficiency of COCESNA and its Member States.

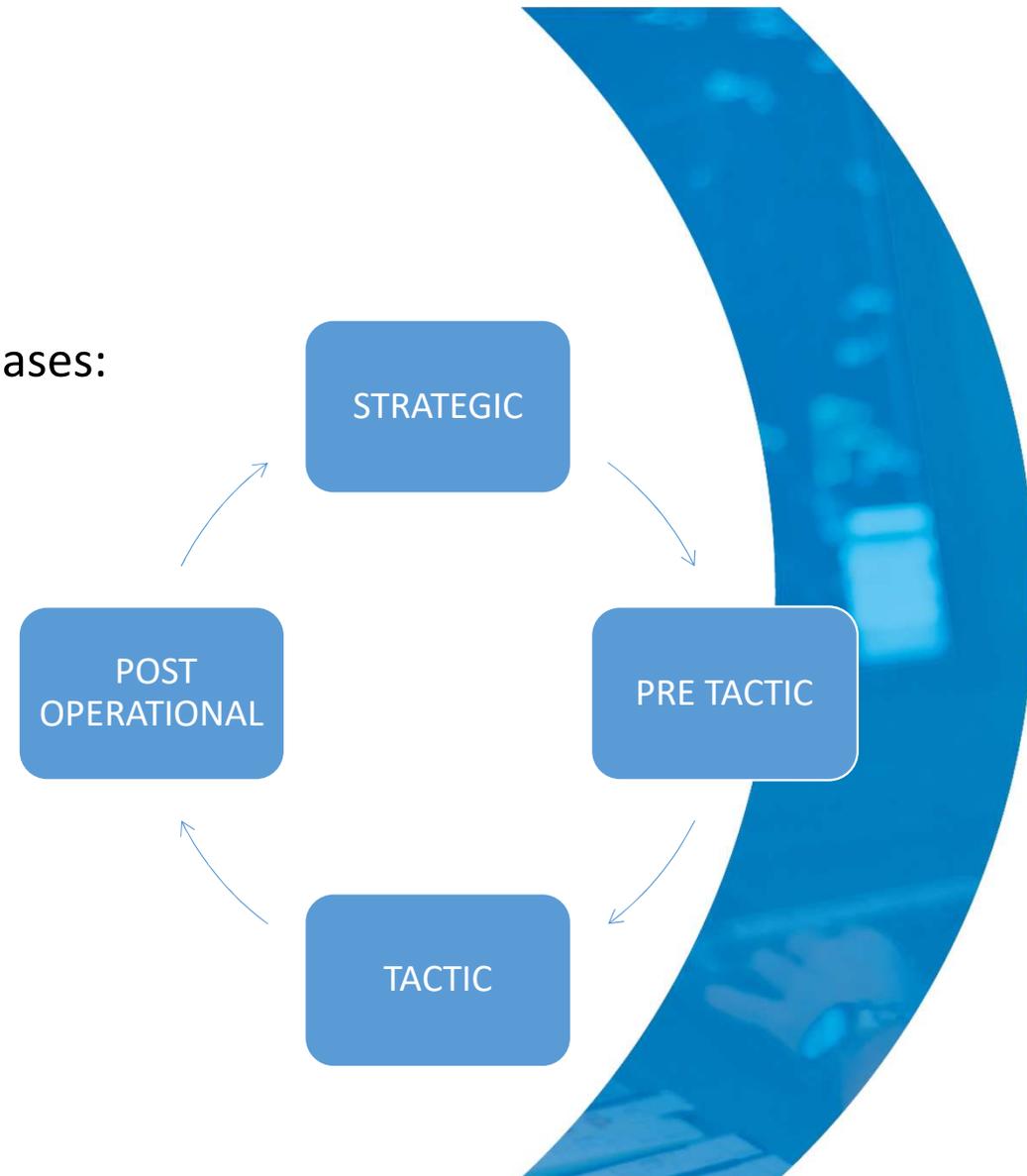


Capacity type:	Sector	Flights	Capacity	Load
View sector	SEC3	23	19	121.05%
View sector	CE1B	14	17	82.35%
View sector	CE2W	13	18	72.22%
View sector	CE1W	6	17	35.29%
View sector	CE2E	11	18	61.11%



The ATFM in COCESNA is carried out in 4 Phases:

- ▶ Strategic
- ▶ Pre-tactic
- ▶ Tactic
- ▶ Post Operational



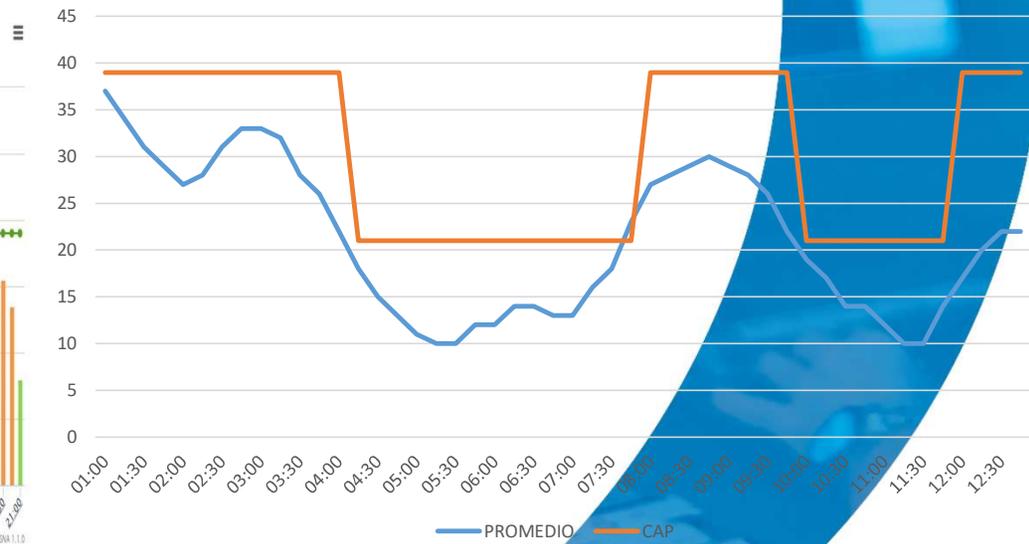
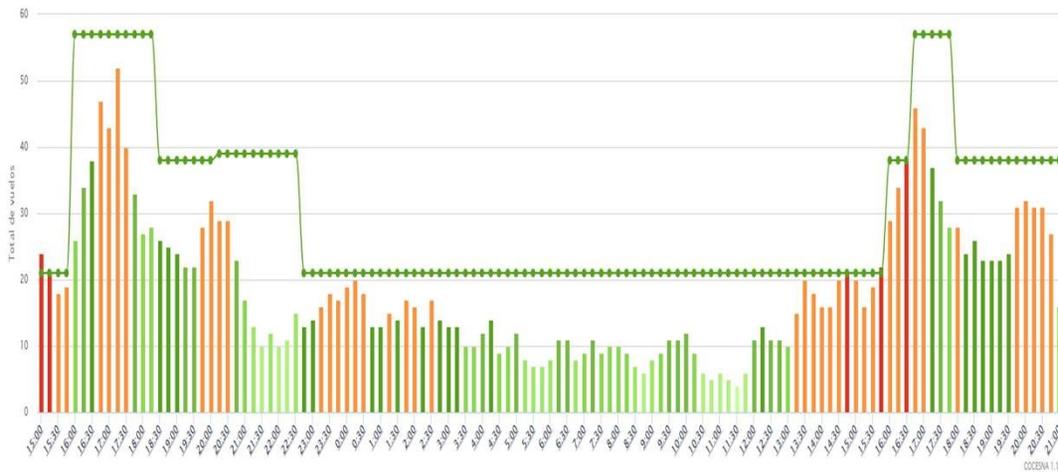


STRATEGIC PHASE

- ▶ A process was established beginning with more than six days before the date of operations, this includes the investigation, planning and activities of the phase. It also includes ongoing data collection with a review of procedures and measures aimed at early detection of major demand / capacity imbalances.

Reporte de Vuelos de CENAMER CONTROL

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PRE TACTICAL PHASE

- It is applied during the six days prior to the trading day and consists of planning and coordination activities. This phase studies the demand for the day of the operation, compares it with the available capacity forecast for that day and makes the necessary adjustments to the plan that was developed during the strategic phase. The main objective of the pre-tactical phase is to optimize efficiency and demand, balance and capacity through effective organization of resources (e.g. sector configuration management, etc.) and implementation of a wide range of appropriate ATFM measures.



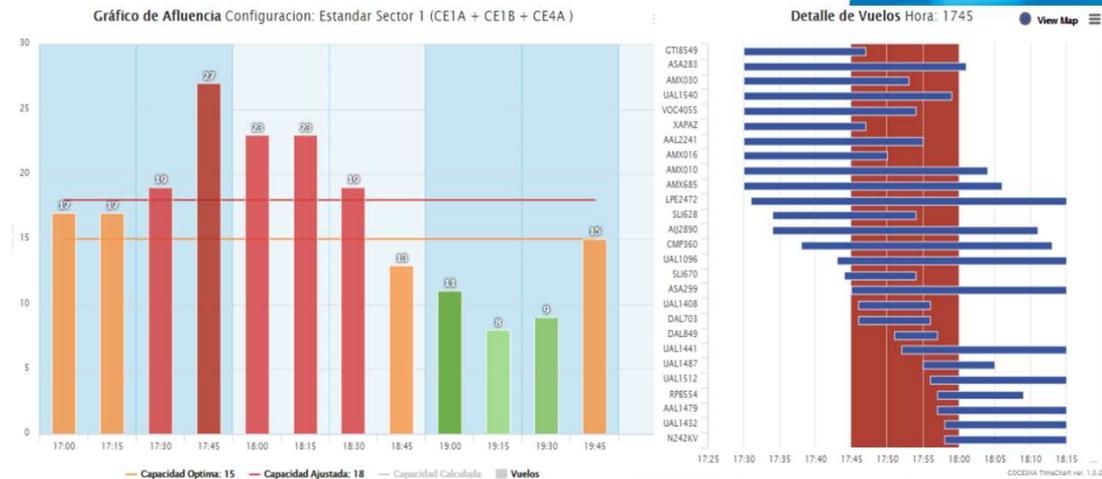
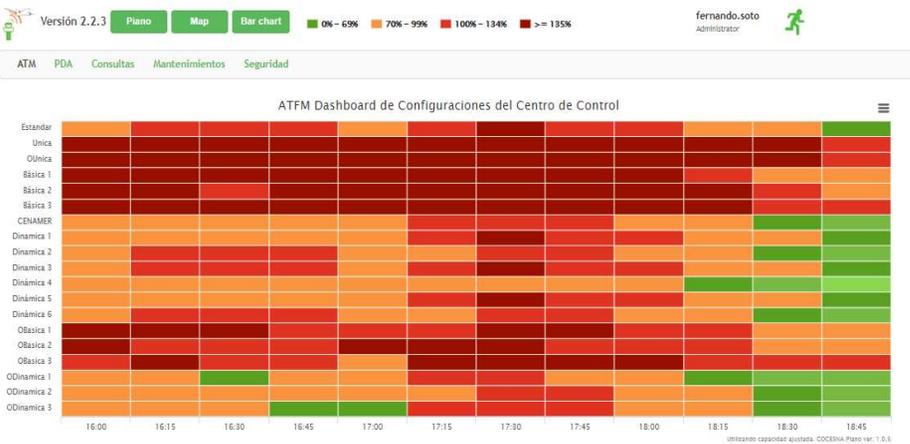
COCESNA Versión 1.1.0

Hora Inicio	Configuración
21/04/2021 01:00	Unica
21/04/2021 14:00	Básica 3
21/04/2021 15:45	Estandar
21/04/2021 18:45	Básica 2
21/04/2021 21:45	Unica



TACTICAL PHASE

- ▶ It takes place on the trading day and involves considering the events that affect the PDA and making the necessary modifications to it in real time. This phase aims to ensure that the measures taken during the strategic and pre-tactical phases are the minimum necessary to resolve demand / capacity imbalances. The need to adjust the original plan can be the consequence of disruptions such as personnel problems, major weather events, crises and special events, unexpected limitations related to infrastructure, etc., and the use of opportunities that may arise.





POST OPERATIONAL

- ▶ It is the final step in the ATFM planning and management process and takes place after the tactical phase of operations. During the postoperative analysis phase, an analytical process is carried out that investigates, measures and reports on operational processes and activities. All those interested in the ATFM service should provide information on the effectiveness of the ATFM Daily Plan (PDA). This phase compares the expected result (under evaluation) with the actual measured result, taking into account the performance objectives. The end result of this phase is the development of best practices and / or lessons learned to improve those operational processes and activities.





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¡Muchas
Gracias!