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Excelência em tecnologias críticas

SkyFlow ATFM System

April, 2014

ATFM System

APAC Regional ATFM Concept of Operations

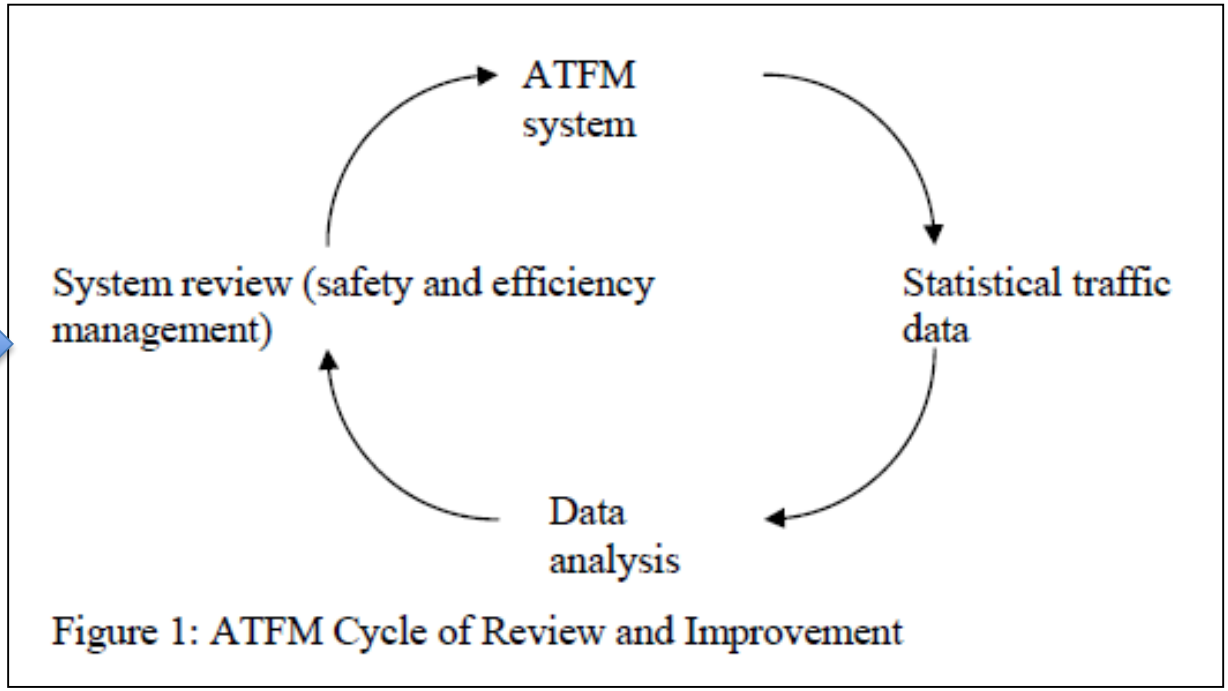


Figure 1: ATFM Cycle of Review and Improvement

This presentation has been designed to provide understanding of the main features of the current **SkyFlow ATFM system**, specifically, its readiness for the provision of required services...

ATFM System

"ATFM is intended as a **win-win enabler**, to ensure the ATM system is compatible, balances capacity, and is responsive to user needs. ATFM supports the introduction of new technologies (such as probabilistic meteorological forecasting and ATS sector capacity assessment tools) and procedures that enhance airspace capacity".

APAC Regional ATFM Concept of Operations

ATFM System

Manage in order to allow flying

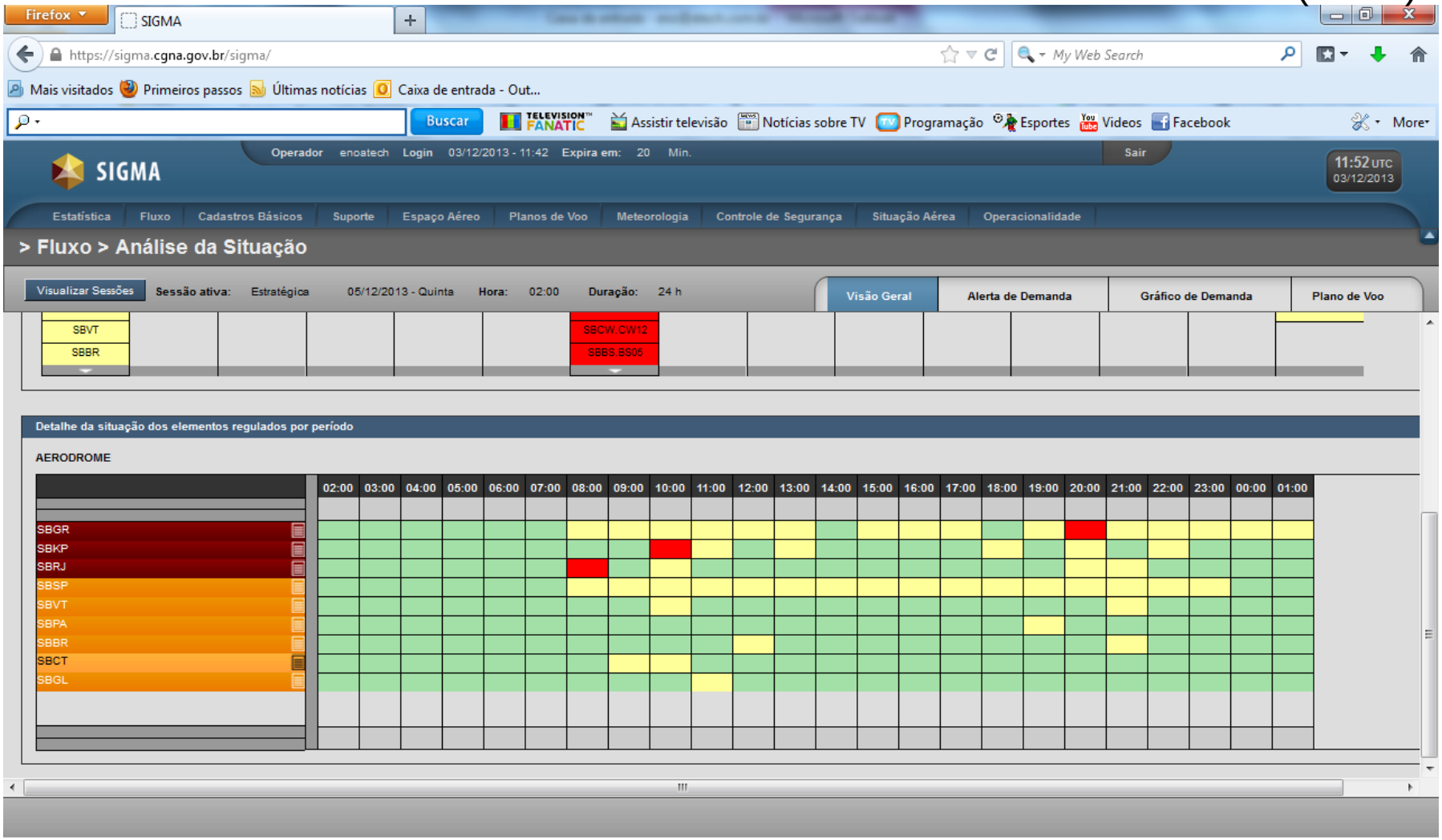
SkyFlow ATFM System is a development based on the successful implementation of the ATFM System currently operational at the Brazilian Air Navigation Management Center – CGNA: **www.cgna.gov.br**

Login to SkyFlow requires a registered user plus password. Access to different features of the system will be dependent on pre-defined settings.

Collection, collation and analysis of data on air traffic, the air navigation infrastructure and on the capacities of the ATS system and **selected aerodromes**

In Red: SBRJ (08:00)
SBKP (10:00)
SBGR (20:00)

Red = congested Yellow = saturated (80% of max capacity)



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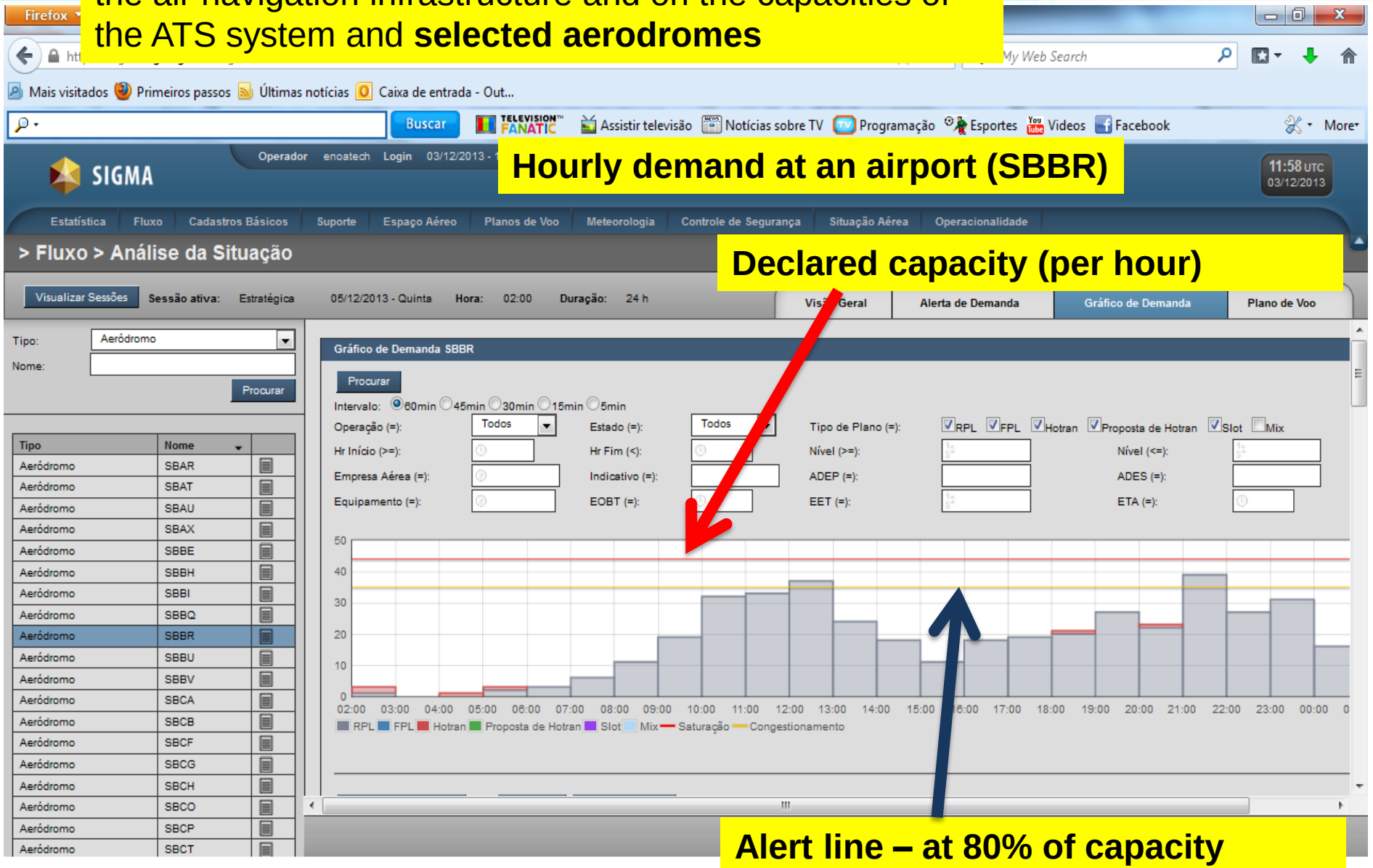

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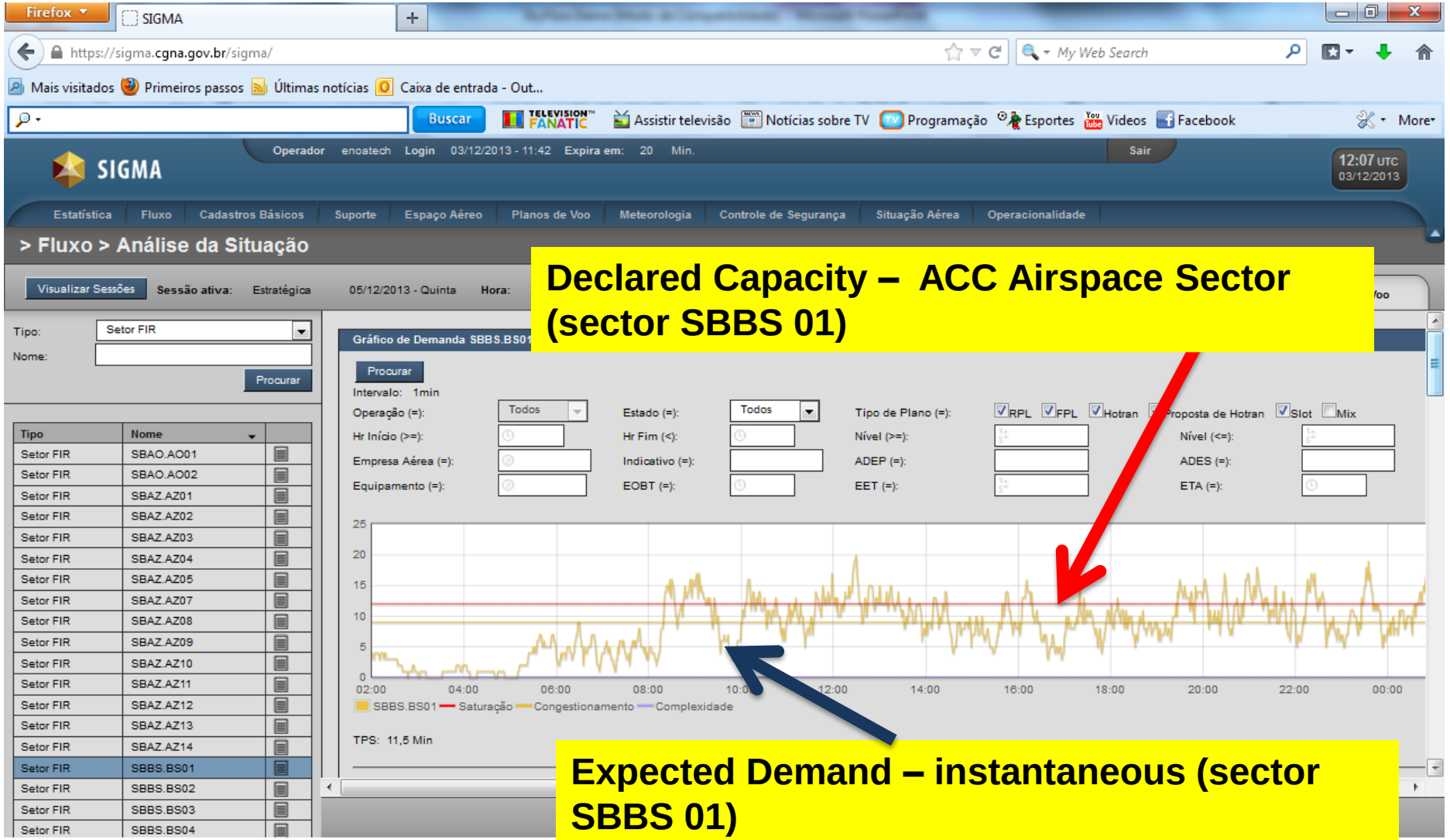
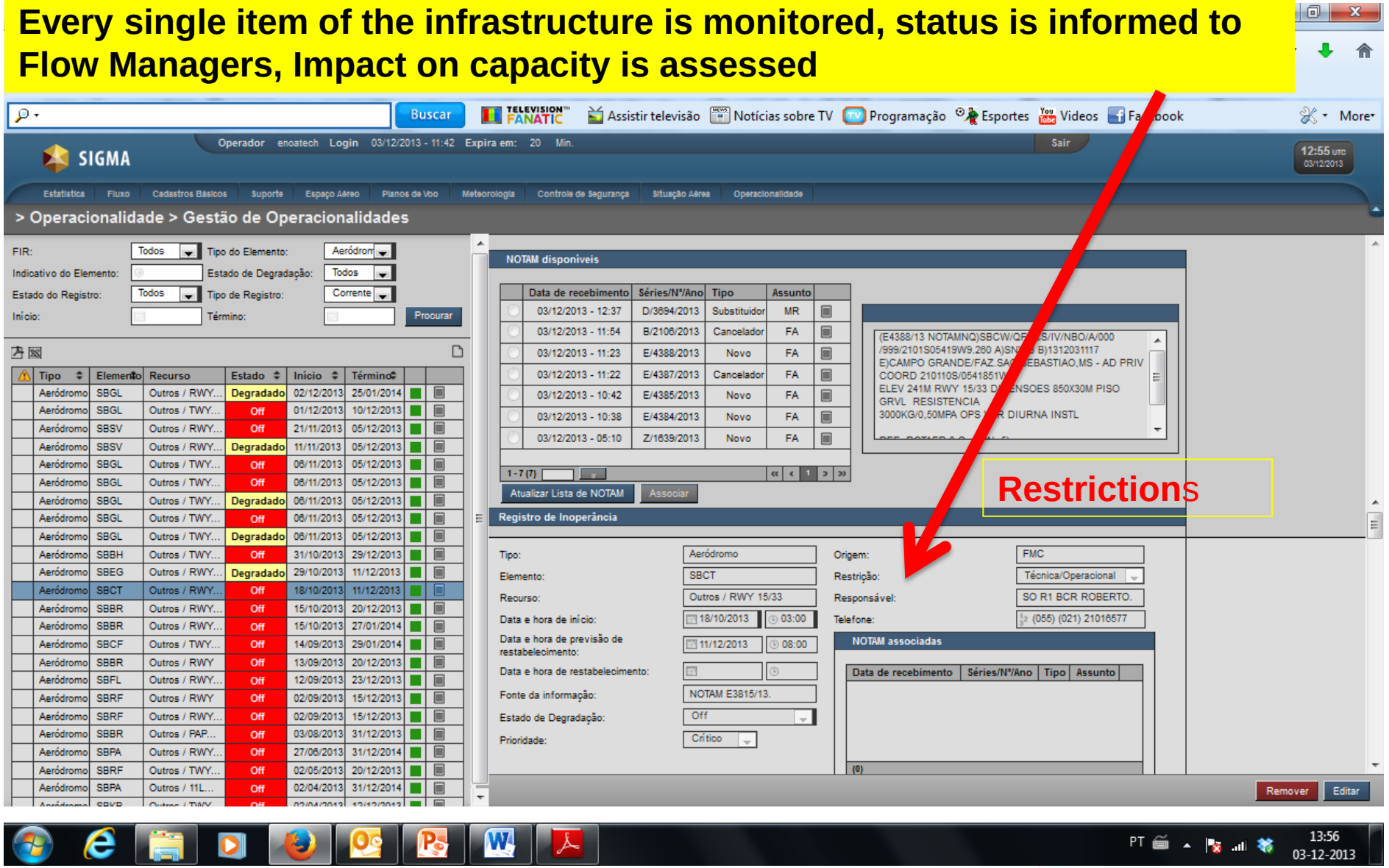


Collection, collation and analysis of data on air traffic, the **air navigation infrastructure** and on the capacities of the ATS system and selected aerodromes

Every single item of the infrastructure is monitored, status is informed to Flow Managers, Impact on capacity is assessed



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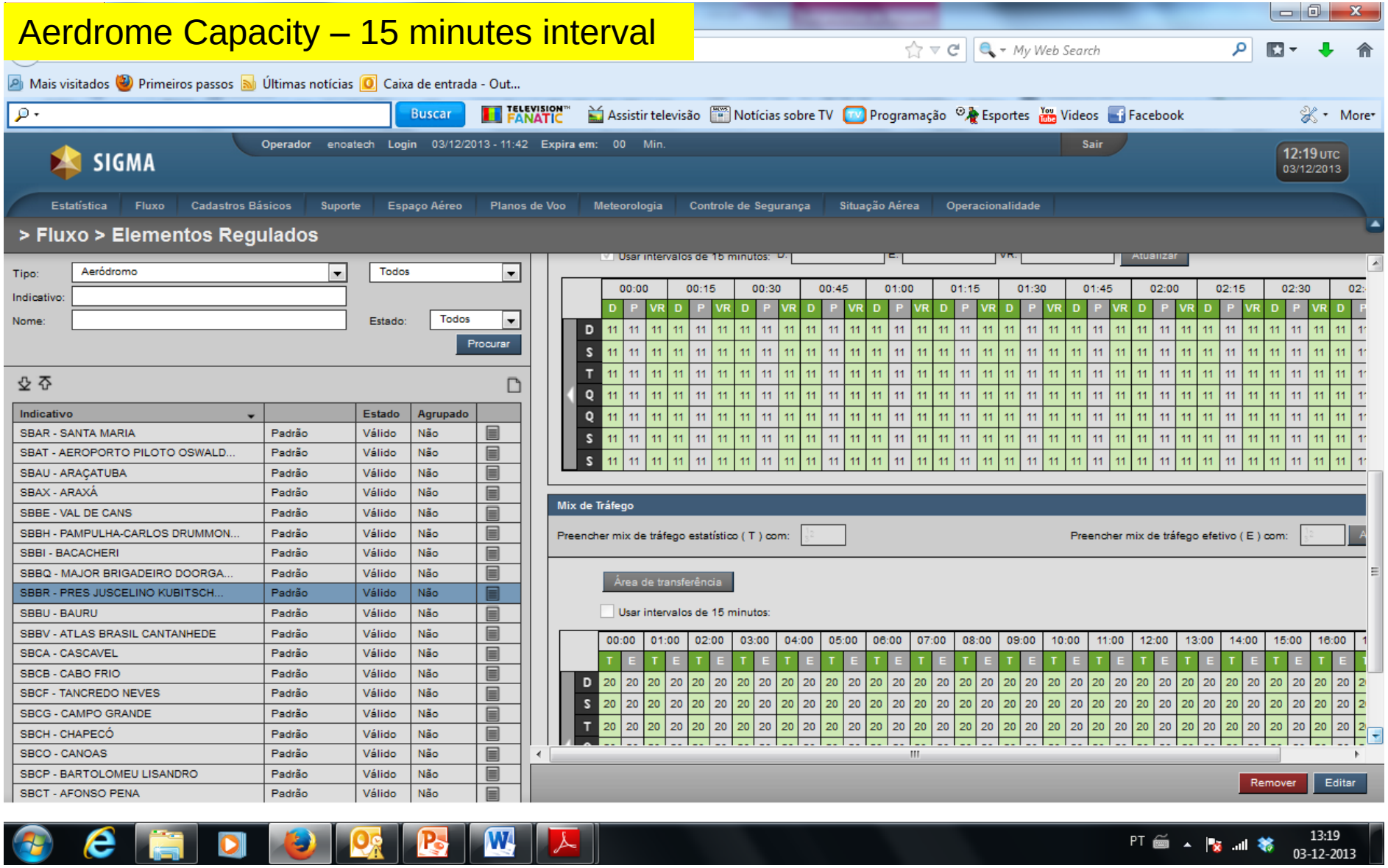
Overall picture

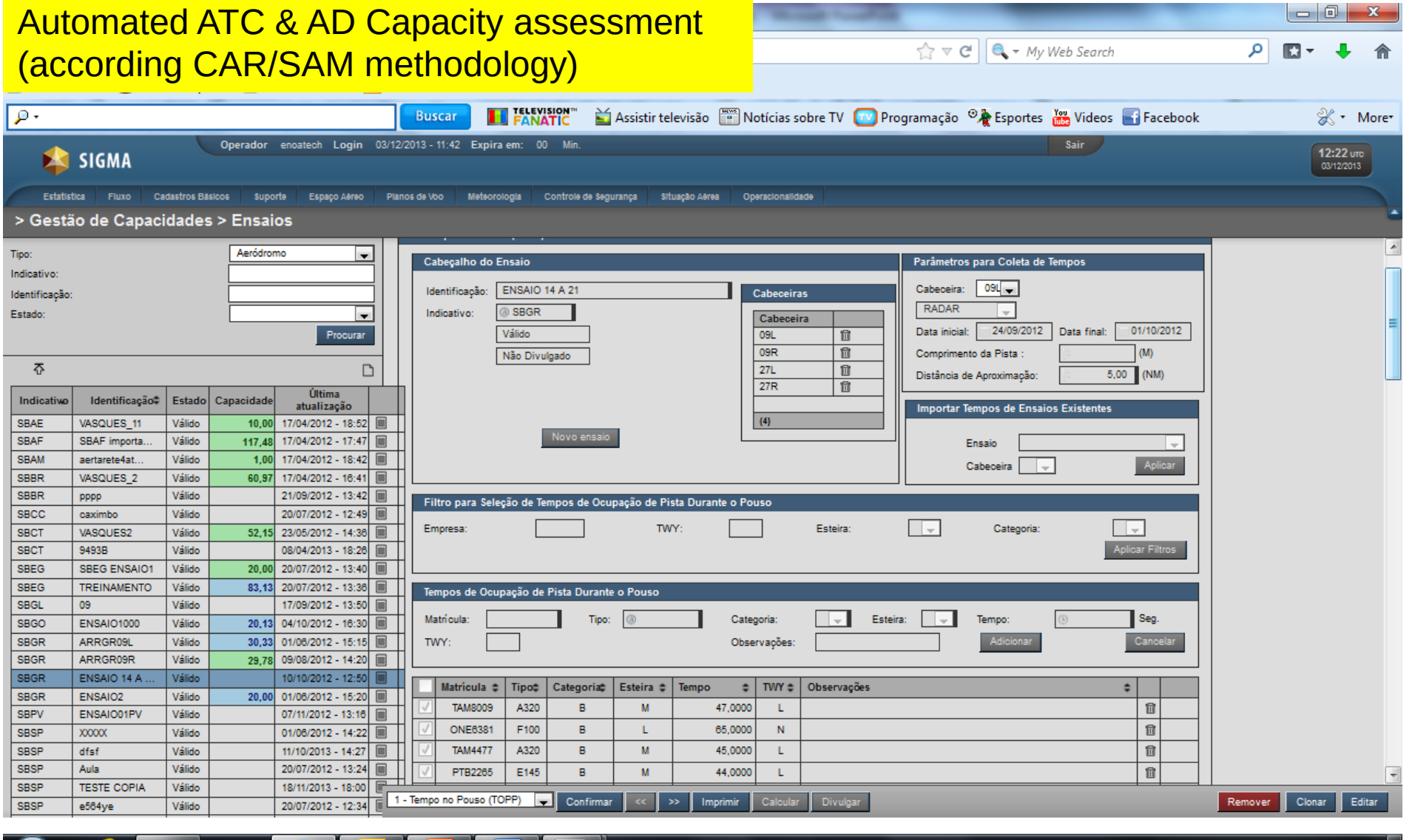
Determination of available airspace, ATS and **aerodrome capacity**

Aerdrome Capacity – 15 minutes interval



Determination of available airspace, ATS and aerodrome capacity

Automated ATC & AD Capacity assessment (according CAR/SAM methodology)



Determination of a coherent picture of expected traffic demand

E.g.: TMA Sectors

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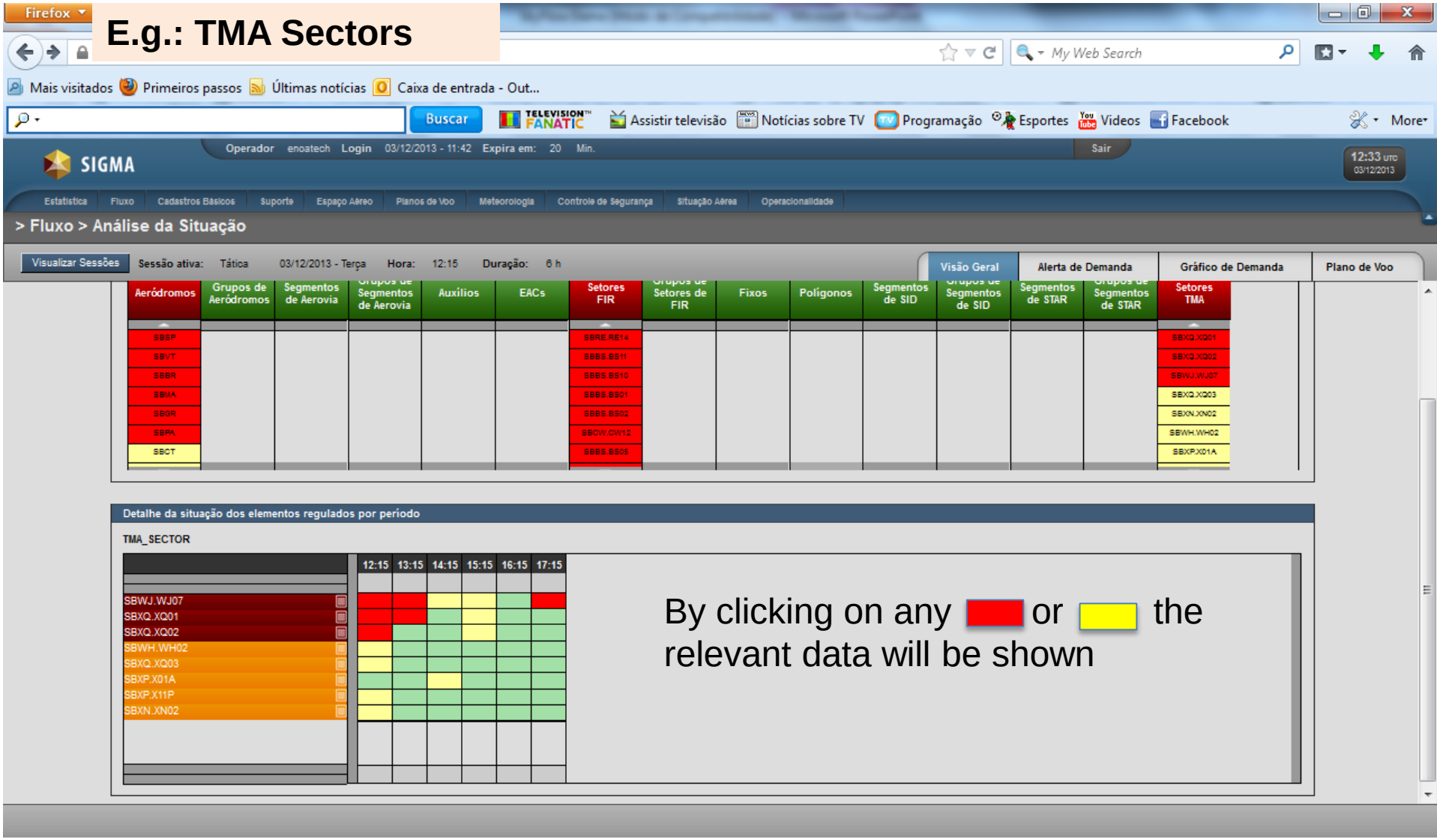
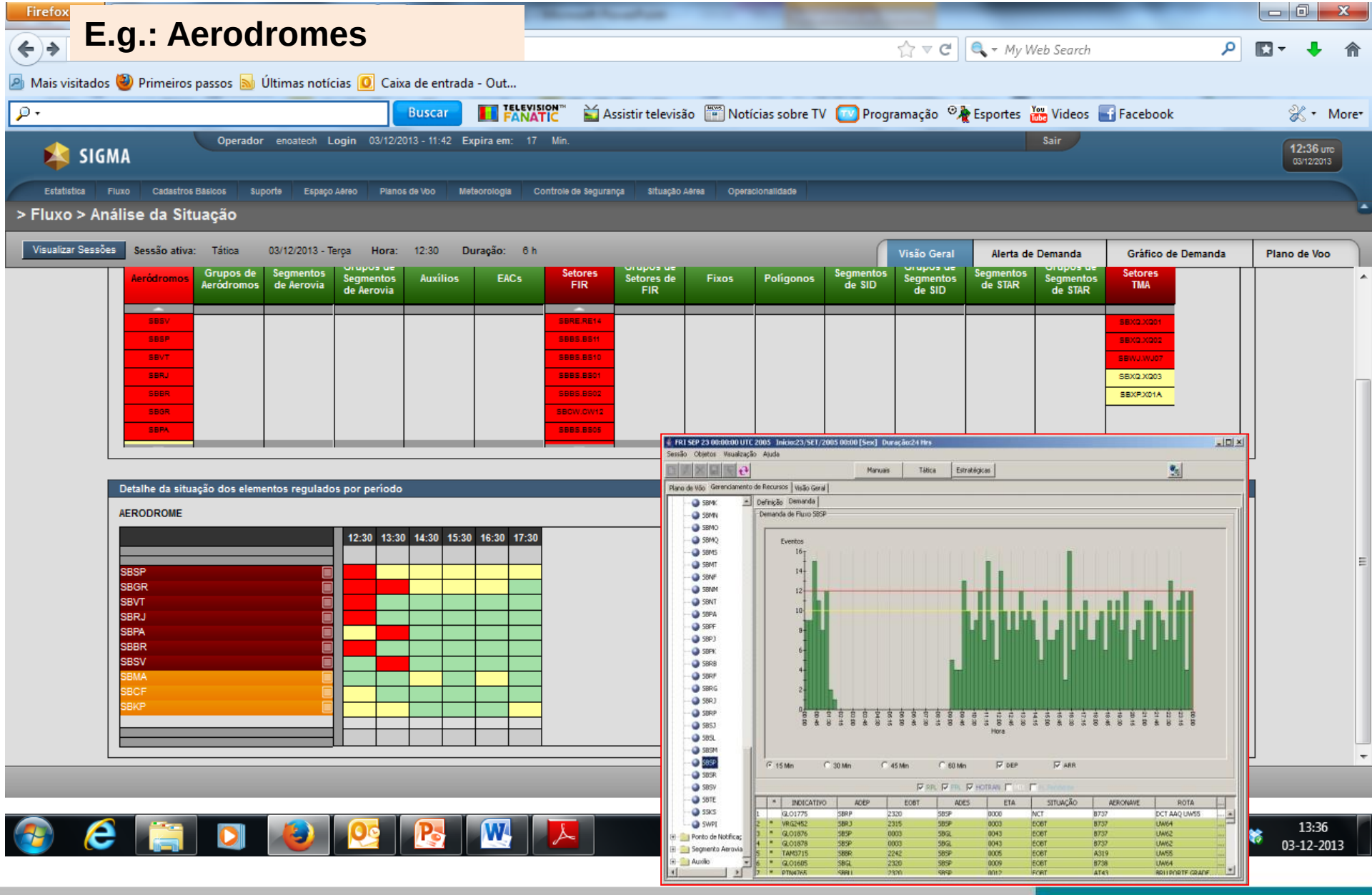
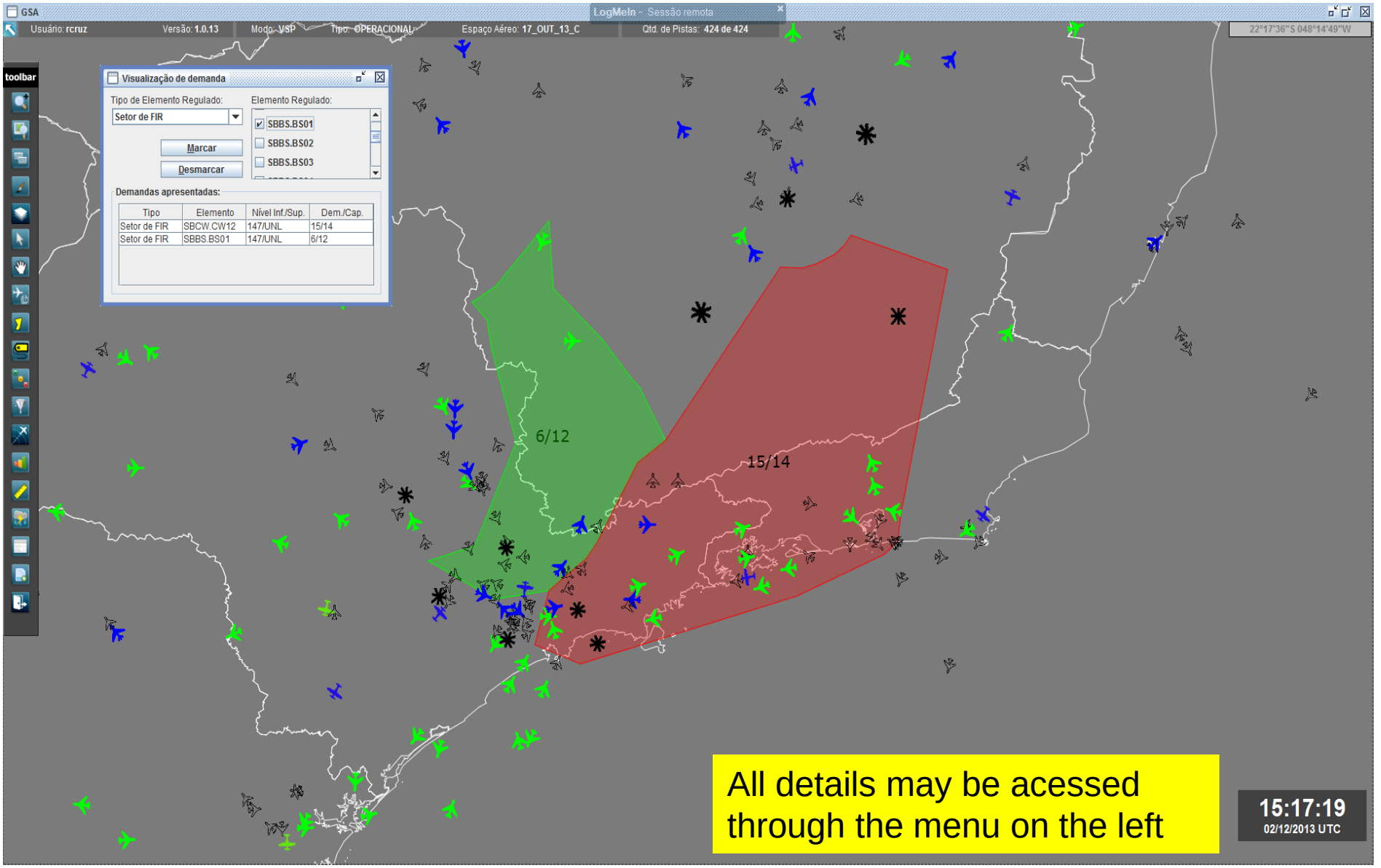


Determination of a coherent picture of expected traffic demand

E.g.: Aerodromes

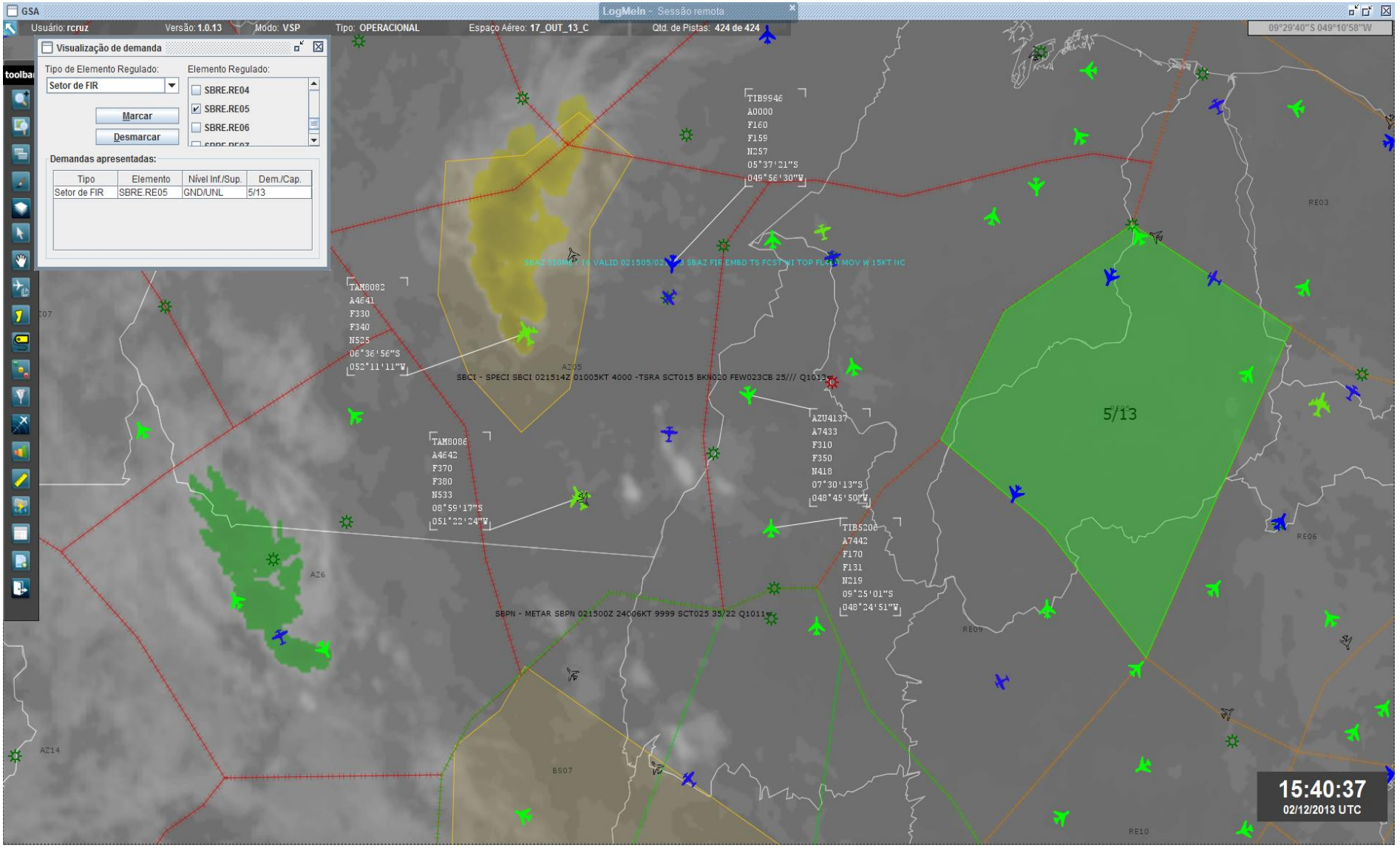


Identification of areas and time periods of expected critical traffic loadings



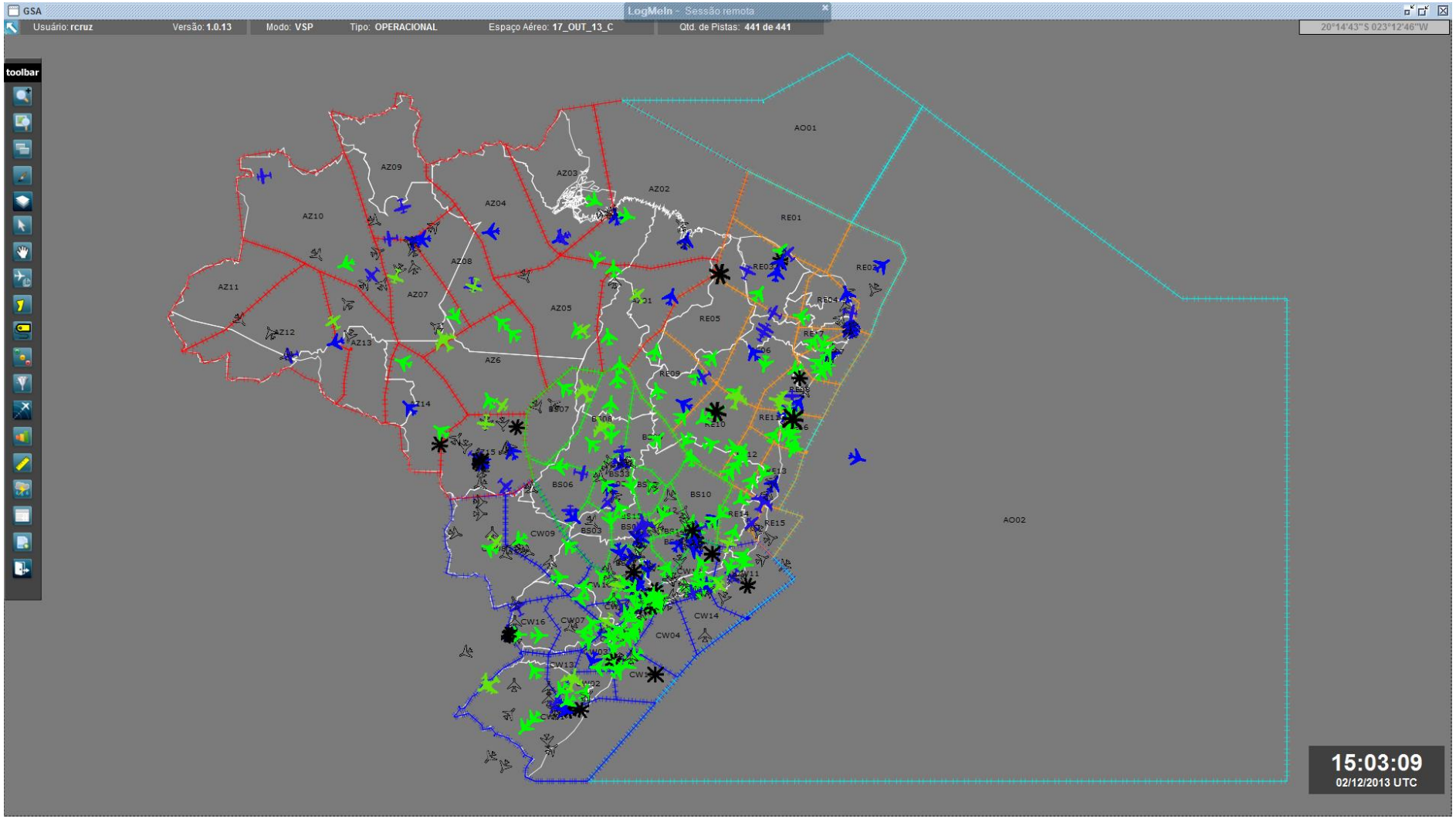
Identification of areas and time periods of expected critical traffic loadings

...including Meteorological Impacts



Identification of areas and time periods of expected critical traffic loadings

...and comparing with real-time ATS Surveillance data



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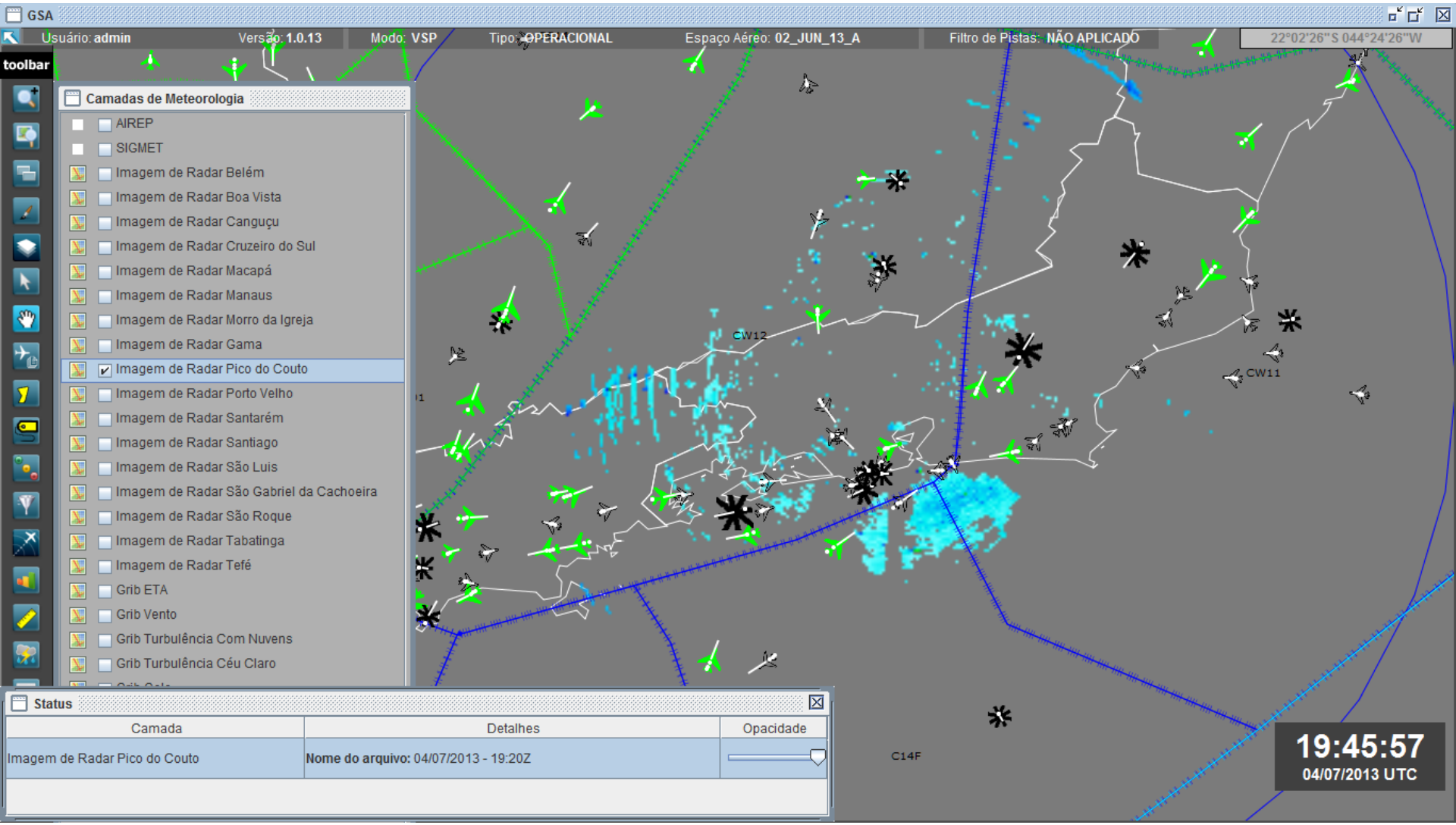
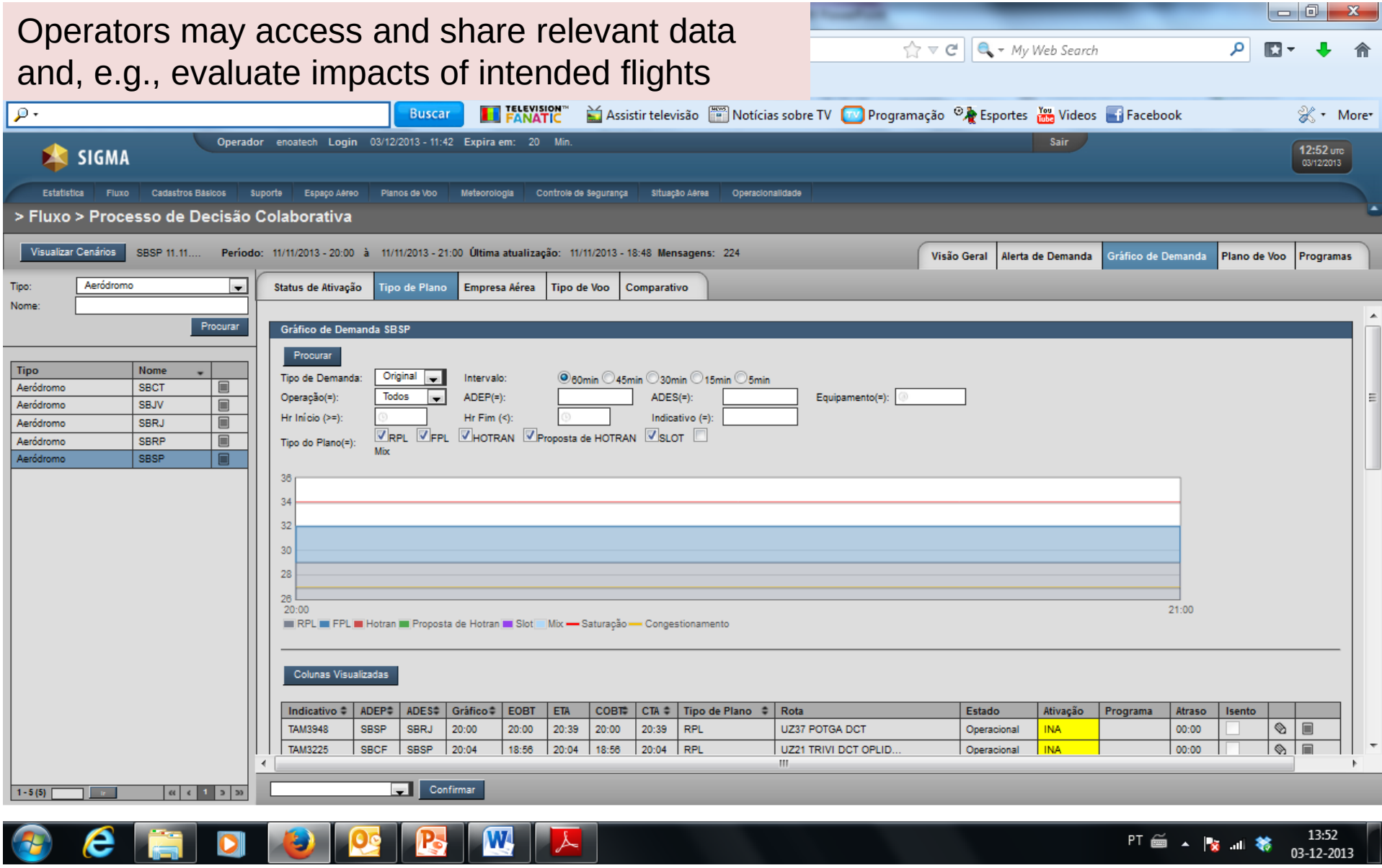


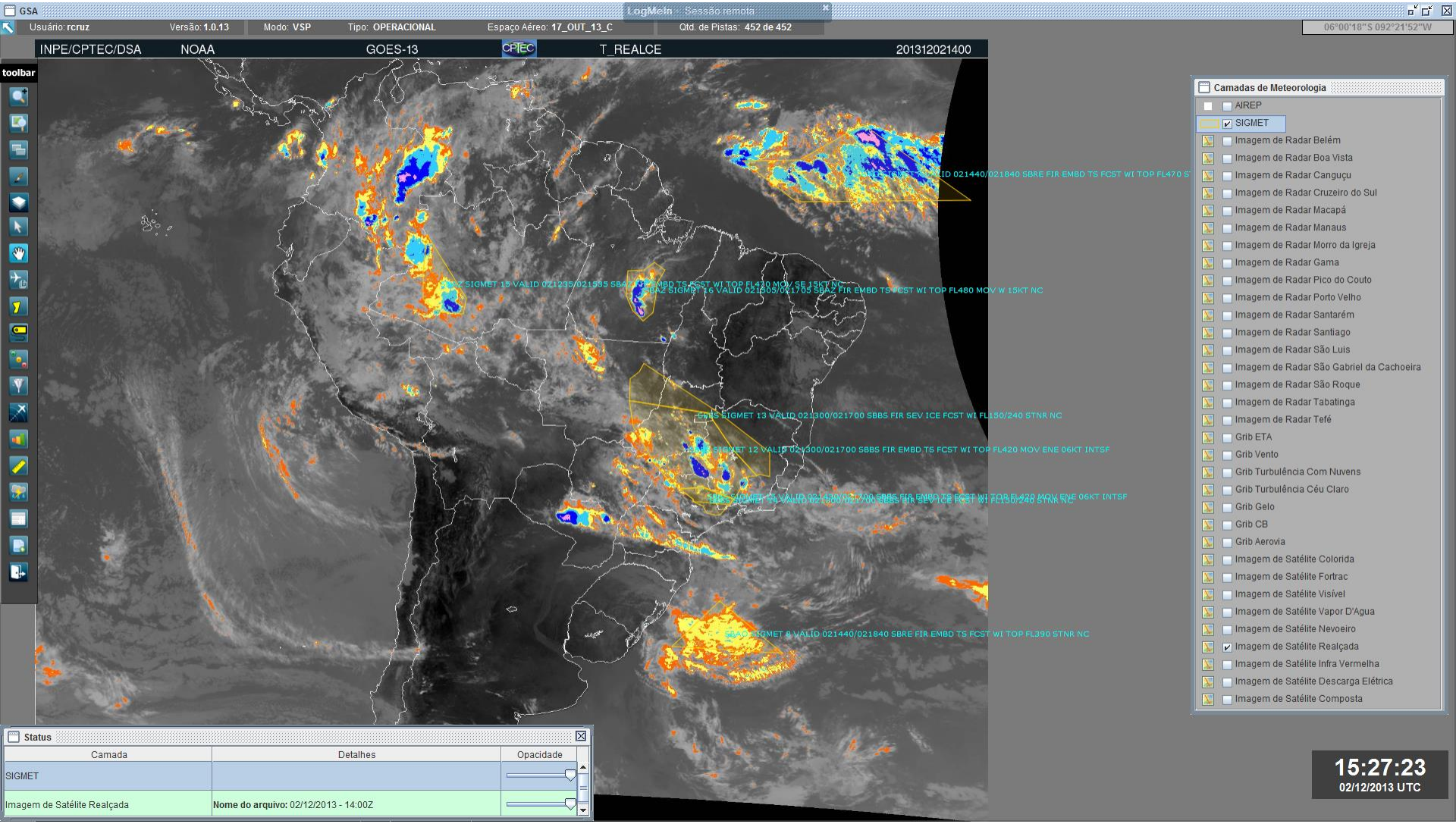
Appropriate ATFM plan should be established, aimed at optimizing the airspace utilization - CDM

Operators may access and share relevant data and, e.g., evaluate impacts of intended flights



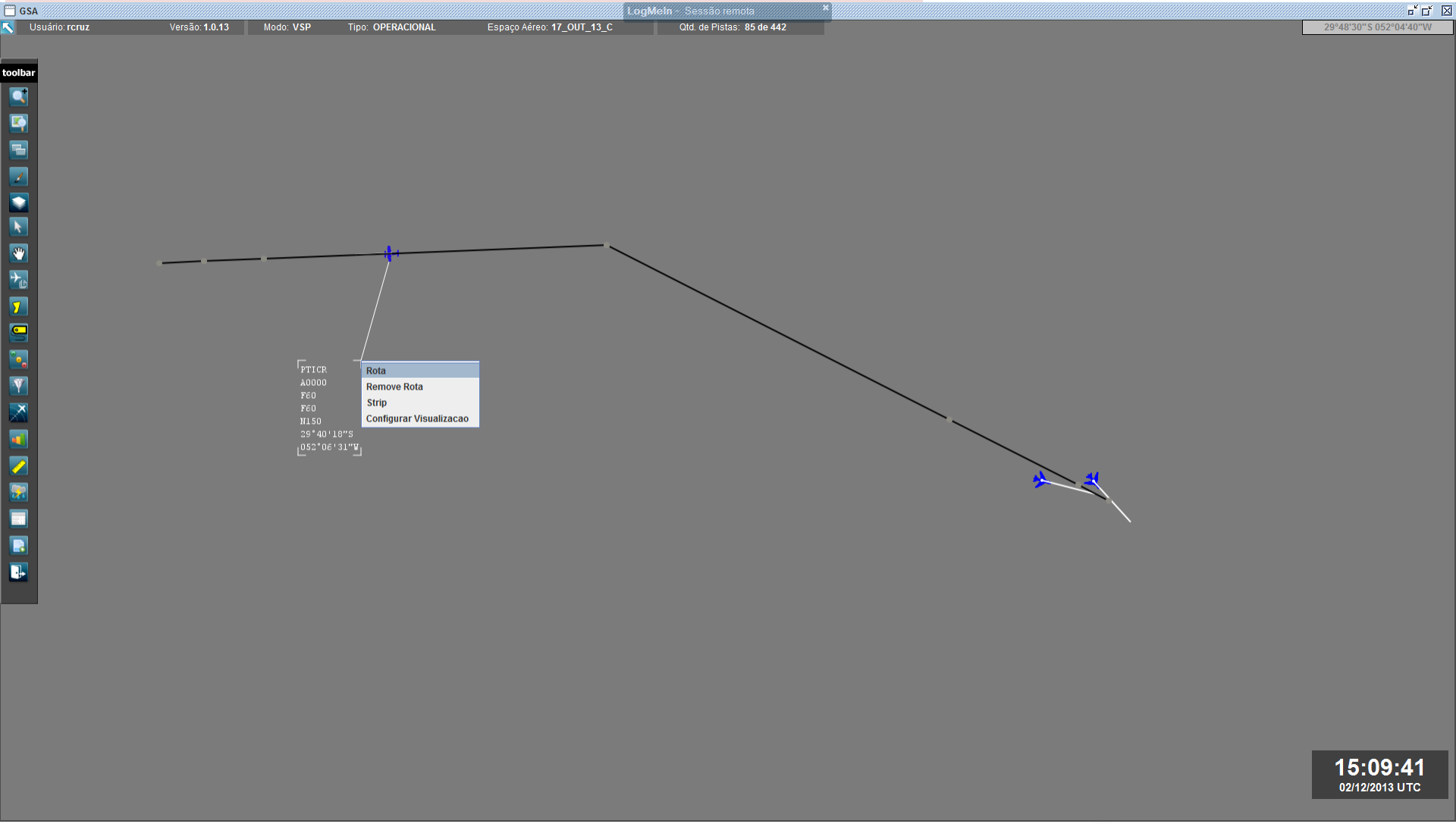
Appropriate ATFM plan should be established, aimed at optimizing the airspace utilization - CDM

Met Data may become fundamental for ATFM plan...



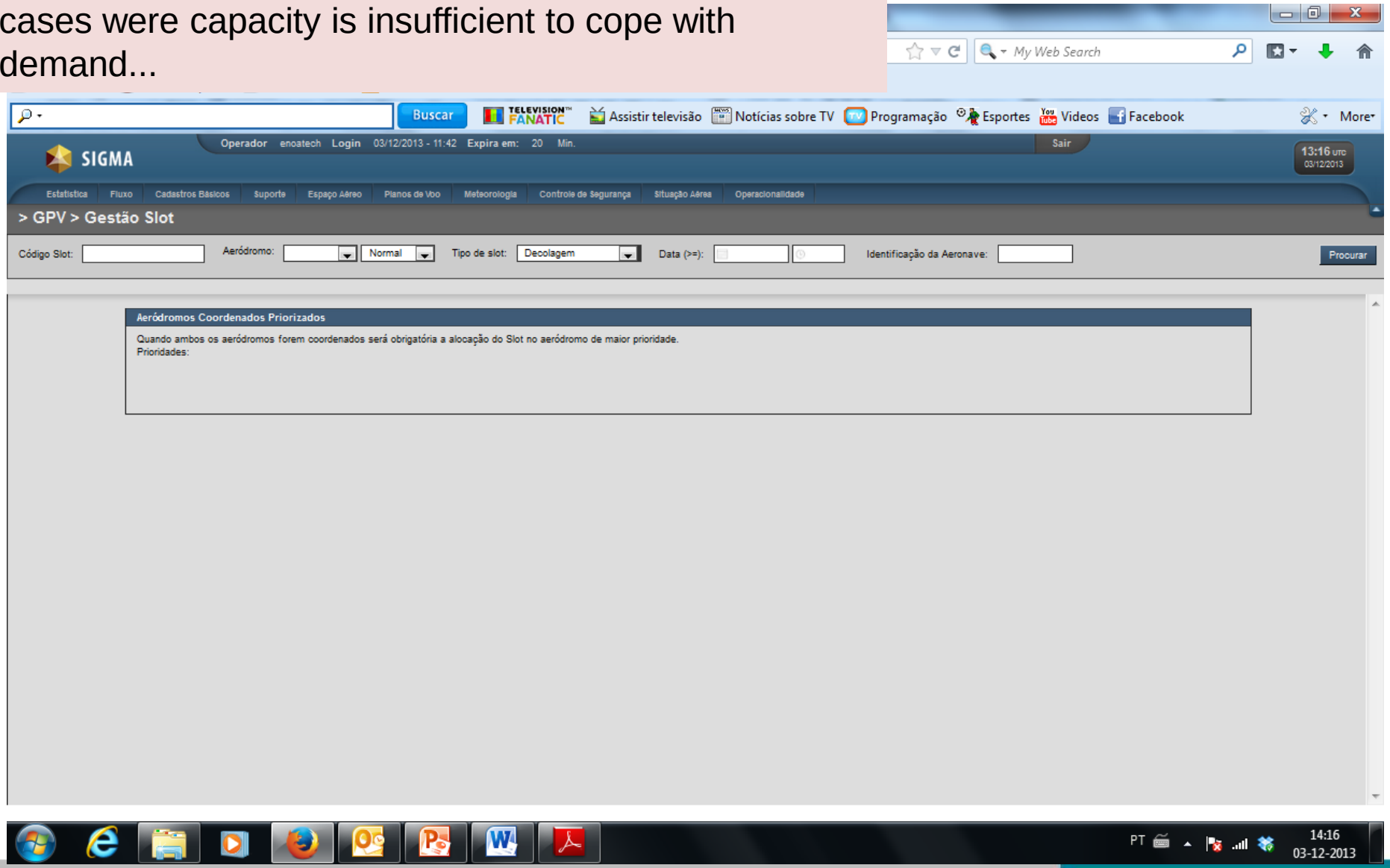
Appropriate ATFM plan should be established, aimed at optimizing the airspace utilization - CDM

ATFM planning may include detailed analysis of individual flights...



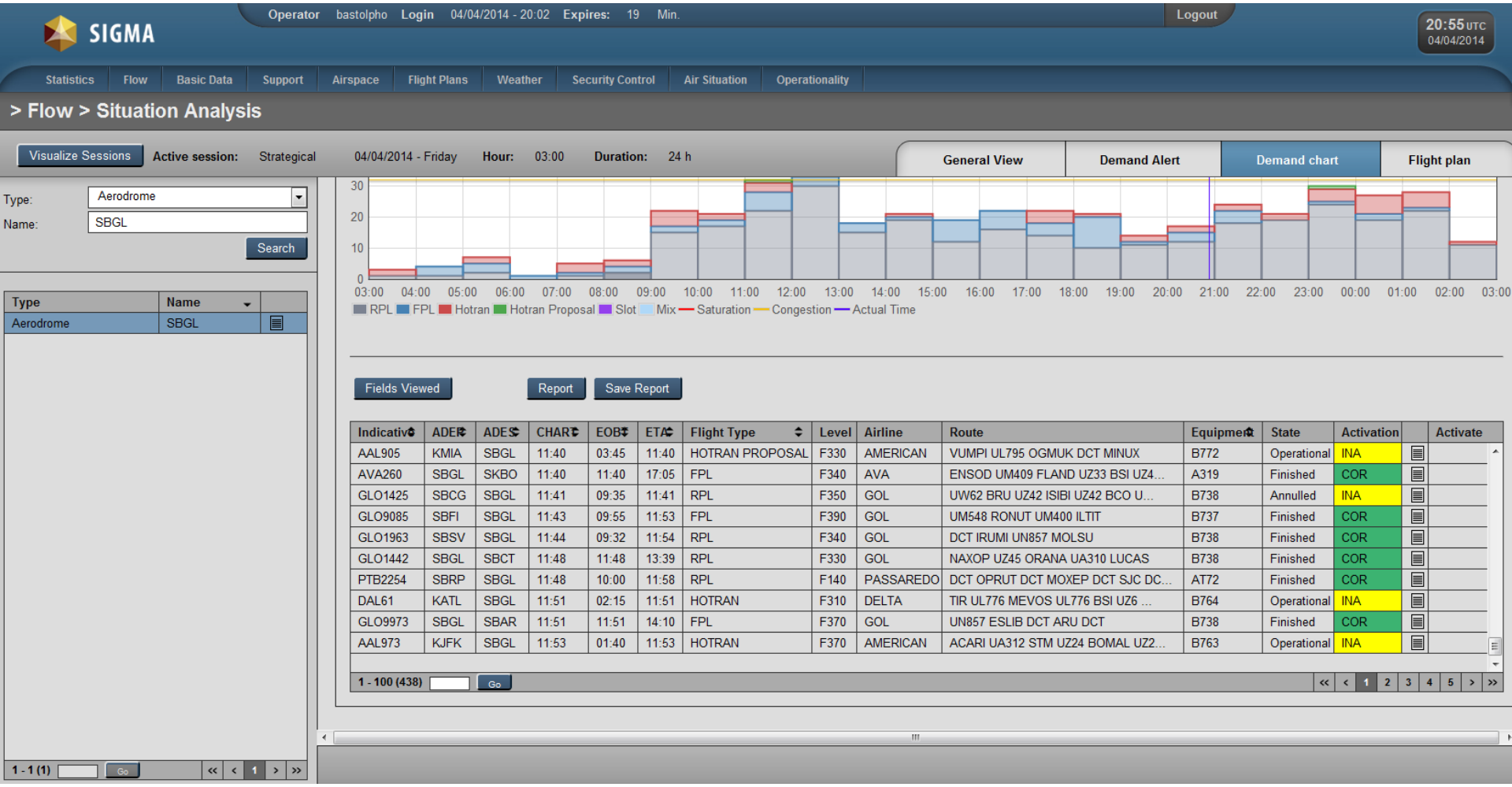
Appropriate ATFM plan should be established, aimed at optimizing the airspace utilization - Slots

ATFM planning may include allocation of slots, in cases were capacity is insufficient to cope with demand...



ATFM initiatives on traffic – FMC !

ATFM initiatives on traffic – Situation Analysis !



SBGL (GIG) – Friday, 4/4/2014

ATFM System

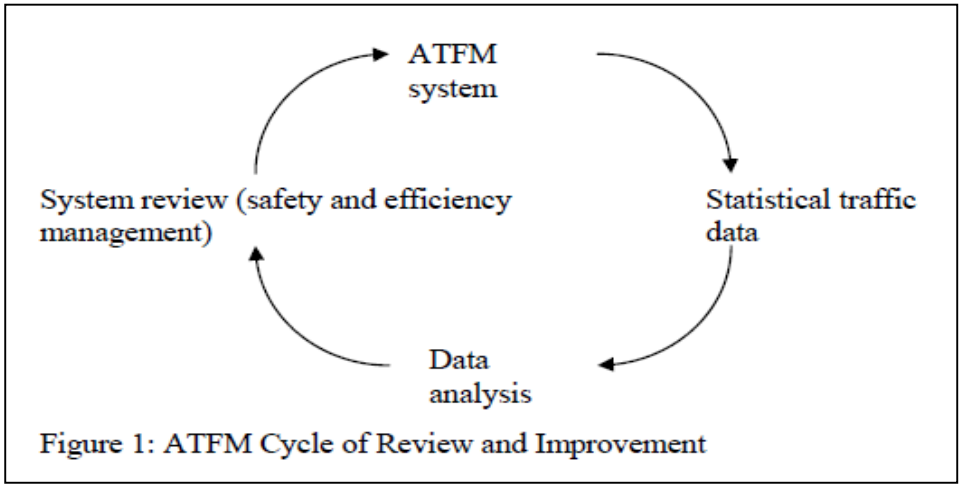


Figure 1: ATFM Cycle of Review and Improvement

Milestones in BR:

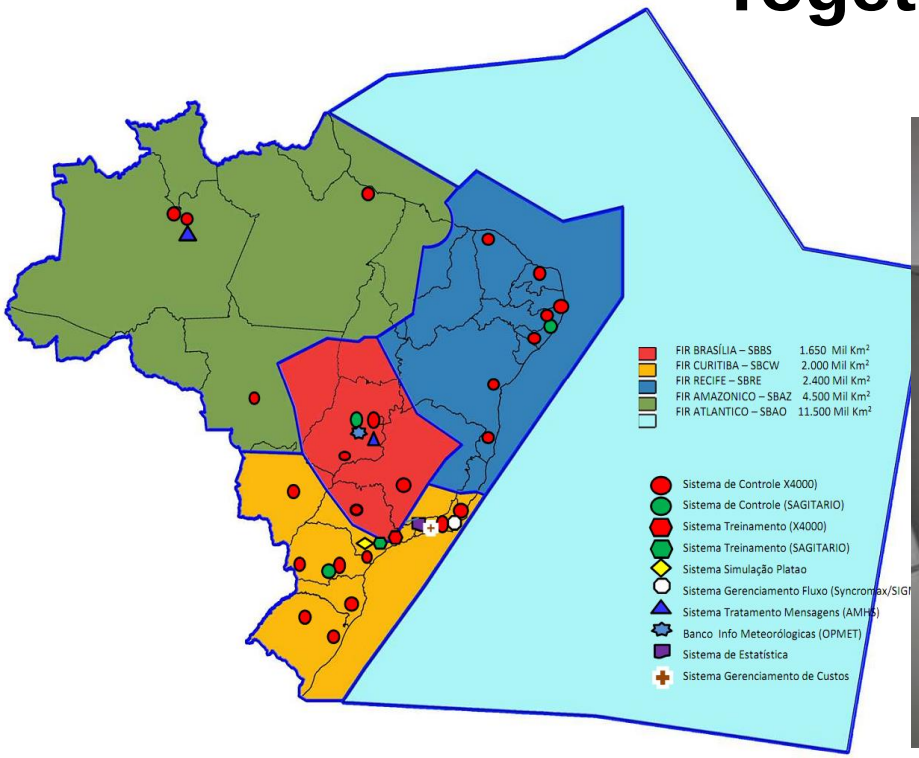
- 1995: major traffic congestions and delays
- 1998: first ATFM CONOPS approved/ATFM system prototype/ATFMU
- 2003: CGNA/ATFM Center established in SJK
- 2006: CGNA transferred to ANSP HQ in Rio (open for visits)
- 2009: Contract of major upgrade of ATFM system (SIGMA/SkyFlow)
- 2013: Final ATFM System validation (major events in Brazil)
- 2014: further developments & integrations

ATFM System...

“Manage capacity and flow in order to assure that everybody who want’s to, may also be cleared, to fly...”

We are getting there -

Together !



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