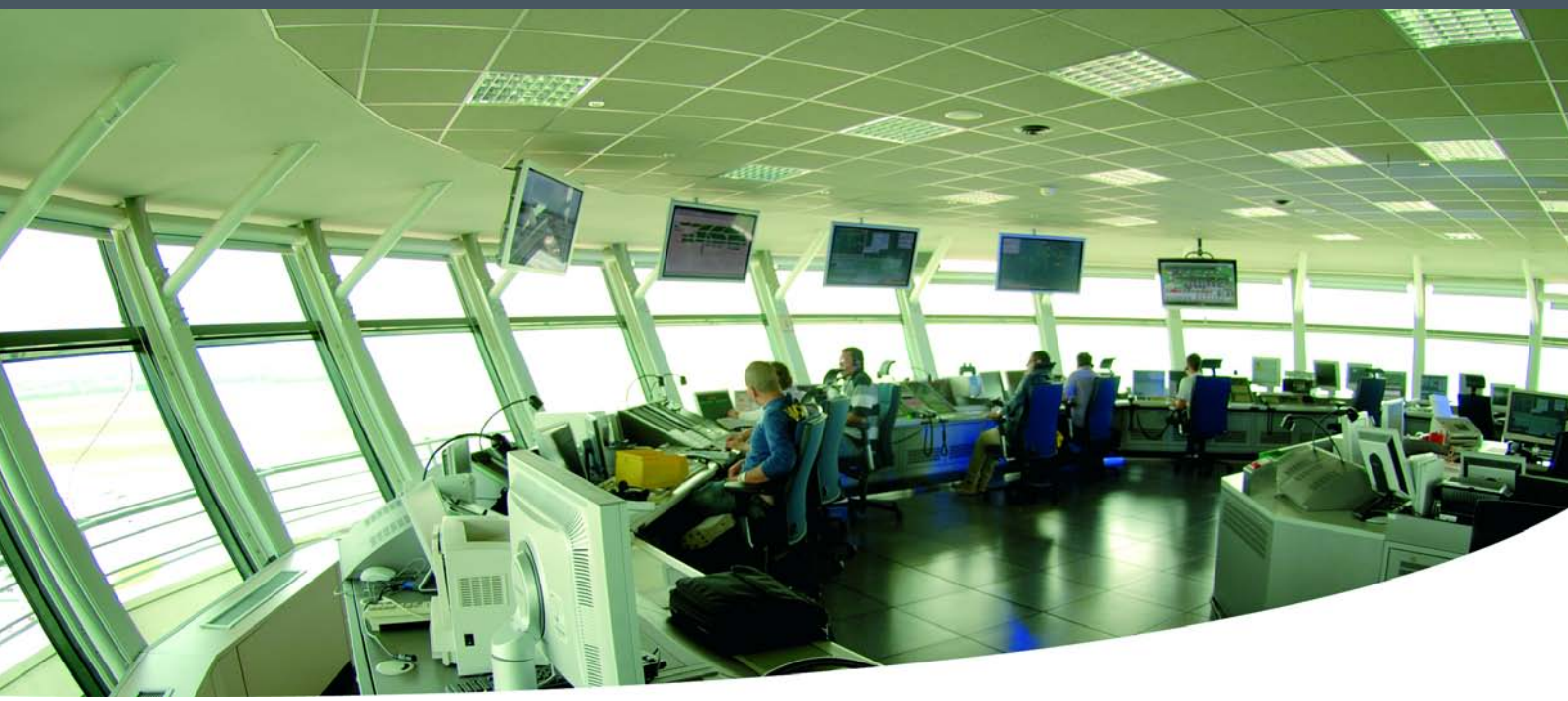
SELEX Sistemi Integrati
A Finmeccanica Company

Predictable results
for unpredictable threats



SATCAS 2000
SYSTEM FOR ATC AUTOMATED "SERVICES & MANAGEMENT"

SATCAS 2000 is the latest generation of SELEX Sistemi Integrati's ATC System. It comes with a full range of modular and integrated products that comply with any Air Traffic Management operational requirement. System design supports a strategic approach that avoids bottlenecks providing full modularity.

SATCAS 2000 – SYSTEM FEATURES

Radar site:

- Primary Surveillance Radar (including weather channel on request)
- Monopulse Secondary Surveillance Radar in conventional and Mode-S elementary and enhanced configuration
- Local radar data plot combining and tracking
- Radar Maintenance Display Monitor
- Local Control and Monitoring Systems
- Full support to any transmission means (narrow band, wide band, fibre optic, satellite, leased ground lines - switched/leased)

OPERATIONAL CENTRE

Advanced Surveillance Data Processing:

- Multiradar Tracking (MRT) of up to 32 independent sources in a 2048 x 2048 NM scenario
- Enhanced Surveillance data bypass with Multi Radar Tracking gap filling
- Flight Plan Tracking providing radar-like reports according to navigated flight plan
- ADS-B and ADS-C report integration
- Mode-S data processing management
- Multisensor radar fallback logic with a supplementary tracker such as ARTAS
- Multiweather data fusion

Flight and Environmental Data Processing:

- Initial Flight Plan message handling;
- FPL and RPL automatic handling;
- ATS messages interfacing;
- Flight plan route extraction;
- Flight trajectory calculation triggered by conformance monitoring, automatic and manual update of the flight plan including tactical constraints;
- Full OLDI Dialogue handling and support;
- Full AIDC Dialogue handling and support;
- Electronic and Paper Strip Management;
- Advanced management of flight list distribution;
- Medium Term Conflict Detection (potential risk included);
- Flexible usage of airspace and CDR management;
- Environmental Data handling including (Airspace & Aircraft Performances);

- MET data handling for trajectory prediction purposes and for presentation;
- Flow management functions with advanced strategic and tactical traffic load monitoring;
- ORCAM based SSR code management;
- Flight data statistics and billing facilities.

Controller Working Position:

- Integrated scenario to support both radar and planner tasks through multiple windowing techniques with advanced local control for easy data access;
- Radar data presentation (Plots, System and Local Tracks, Weather Data);
- Flight data lists presentation;
- Electronic strips handling;
- CPDLC full automatic support;
- ADS Contract Capability Management;
- Early radar and flight plan correlation;
- Immediate emergency and conflict alerting handling and presentation;
- Direct Access to local Radar Data (DARD) maintaining flight plan and radar correlation from Multiradar to DARD and vice versa modes;
- Multisector Planner Management;
- Multisector Radar Management;
- Vertical Sector Management;
- Fixed and dynamic maps;
- Holding status management and presentation;
- Coasting status management and presentation;
- Diagnostic and System status presentation;
- Auxiliary information presentation;
- Privilege for operational reconfiguration;
- Dynamic reallocation of positions and resources among real, simulation and playback separate environment;
- Friendly Human-Machine-Interface toolbox for easy customization.

Safety Nets and Advanced Tools:

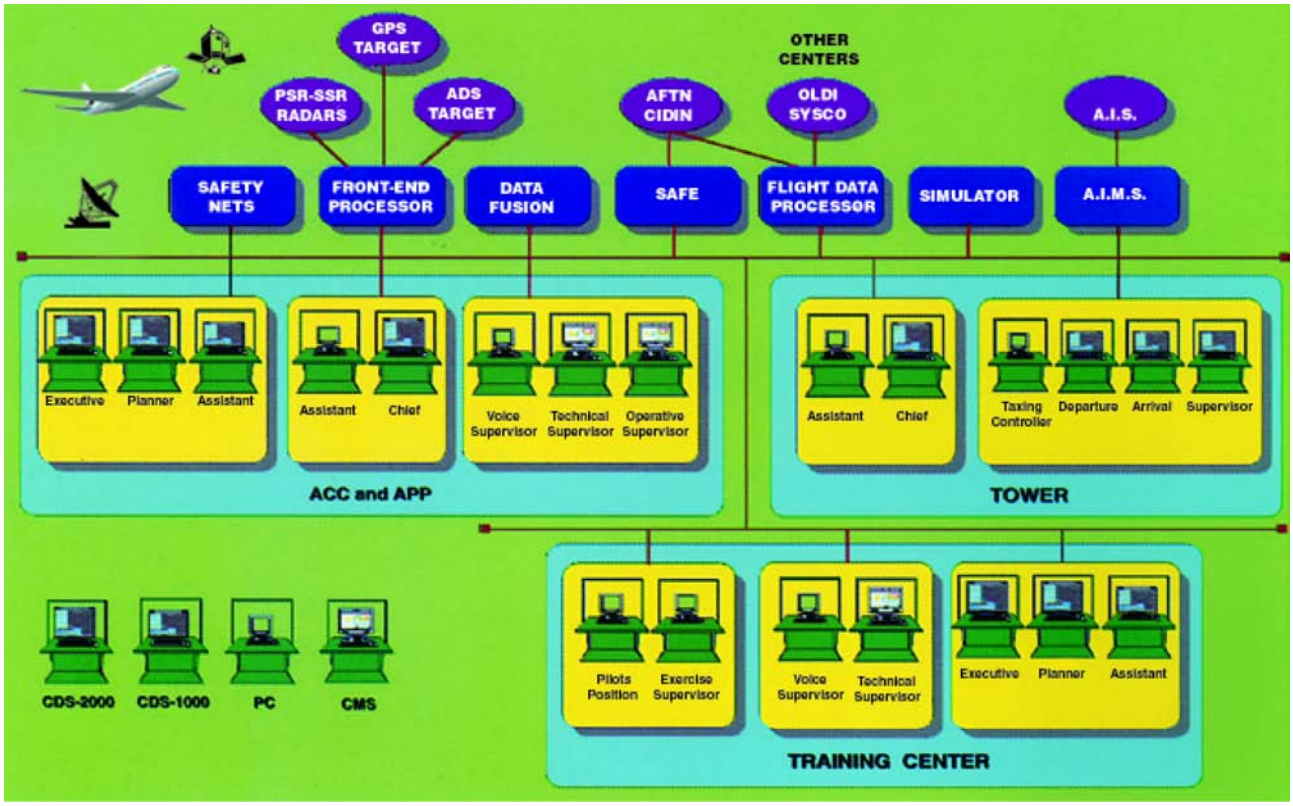
- Short Term Conflict Alerts;
- Minimum safe altitude infringement warnings;
- Area proximity Warning Alerts;
- Conformance monitoring with automatic divergence detection and automatic re-triggering of trajectory updates;
- Cleared Level deviation early detections;
- SSR code mismatching warnings.

Control and Monitoring Processing:

- Complete system status presentation;
- Early management of the system/sub-system alarms;
- Full capability to input all system/subsystem controls under definable user access and privilege;
- Operational reconfiguration of the workstations;
- Remote control of the primary and secondary radar site with locking feature available on request;
- Centralised diagnostics management;
- Logging and statistics of system performance.

Central recording and playback providing non-stop recording on redundant media of the following:

- Surveillance data;
- Flight plan data;
- Controller orders;
- Supervisor and CMS orders;
- Diagnostic messages;
- Configuration data;
- Simultaneous recording and playback;
- Synchronous Voice and Data Playback at any selected workstation;



- Radar and tracking evaluation toolsets (PSR, SSR, ADS & Mode-S) with relevant performances checks.

ATON Simulation:

- Full capability for Executive and Planning tasks;
- Graphical Pilot Display;
- Surveillance Data generation for Primary, Secondary, ADS-B, MLAT and Surface Movement Radar;
- ADS-C Contract Management;
- Flight Data processing with full OLDI management supported;
- Separation Conflict Detection;
- Minimum altitude warning;
- Area Proximity Warning;
- Multiexercise capability;
- User friendly database management;
- Recording and playback facility;
- Run-time operational reconfiguration of CWPs.

SATCAS 2000 OPERATIONAL CONCEPTS

SSATCAS 2000 has faced the Air Traffic Management operational improvement from a global point of view by wide use of advanced technological enablers. Eg. a deep analysis of Operational Concepts issued by international working groups and task forces promoted by EUROCONTROL, ICAO, and EUROCAE.

SATCAS 2000 provides full interface capability via unmanned radar sites and integration of data with any ADS report in order to assure extended and overlapped (when applicable) surveillance coverage.
Tight Remote TMA and Control Tower integration with en-route facilities are available supporting a unique radar and flight data information.

Tight Military to Civil Coordination is provided in order to support military flight monitoring and military-to-civil flight coordination with on-line definition and management of restricted airspaces.

Data link communication is fully supported through an integrated solution providing air traffic Controllers with a single action facility.

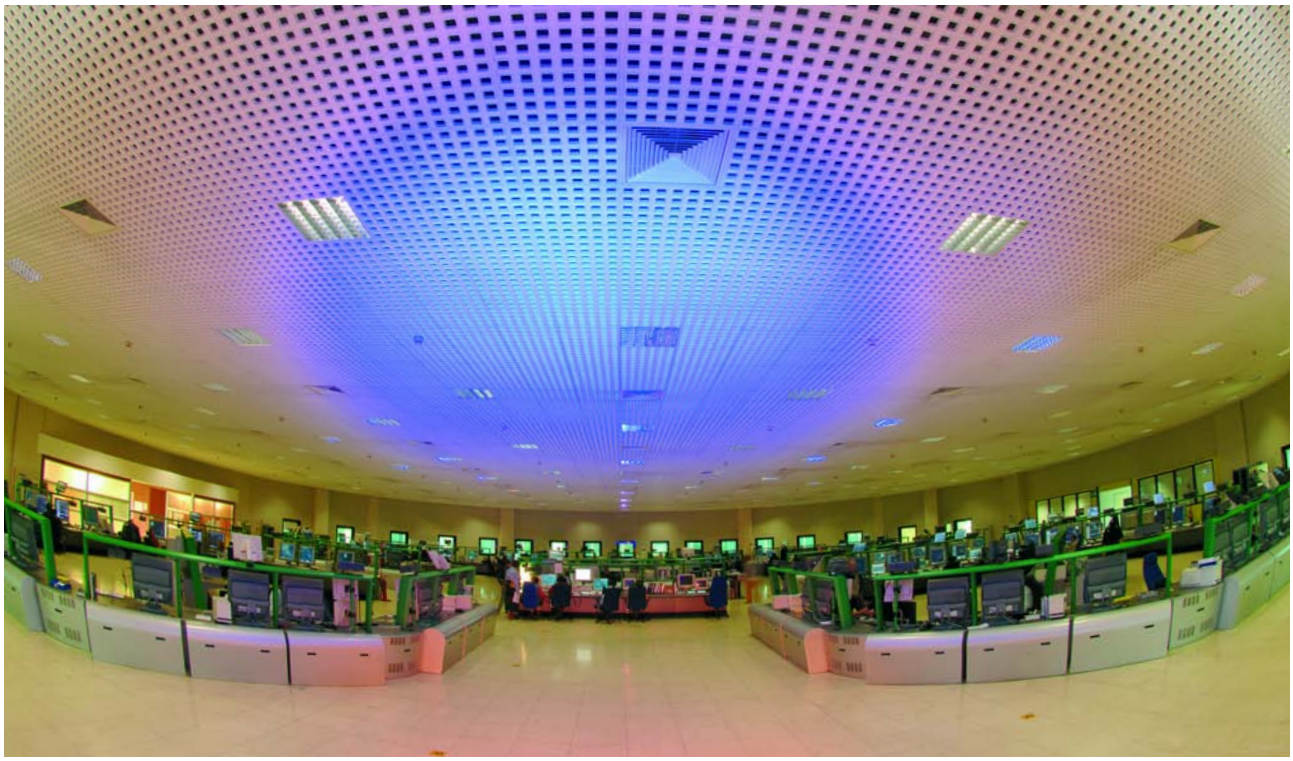
Multilevel fallback logics are implemented providing high availability of data processing and consistency through different levels of redundancy.

Hot stand-by capabilities for any central processing unit are available.

Radar data are distributed for multiradar processing and for local access, providing powerful capability to maintain flight plan correlation in any transition case and even in case of Local Area Network failure.
Flight data management is supported by centralized processing and a reduced capability is provided at any controller working position, satisfying elementary requirements for safe air traffic navigation.

Operational data are widely distributed on each processing unit. A system by system active gateway is available for partial operational and surveillance data alignment. Complete and immediate recovery of air traffic control capability is thus guaranteed.

A Disaster System-by-System Recovery active gateway is available as well. Through a complete operational and surveillance data alignment, an immediate and full recover of air traffic control capacity is possible at any location.



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SYSTEM EXPANSION

Expandability is inherent to the system philosophy and network structure. The modular SATCAS 2000 system is expandable at any time from one level to another by using the same standard building blocks.

Costs of expansion are therefore limited to the equipment added, with no impact on the original capital investment.

SATCAS 2000 is available on UNIX and LINUX platforms and on any COTS hardware platform.

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