VCS3020X

DYNAMIC
SECTORISATION

ADVANCED IP
TECHNOLOGY

MARKET-
LEADING
PERFORMANCE

FREQUENTIS AG HEADQUARTERS

Innovationsstraße 1, 1100 Vienna, Austria
Tel: +43/1/811 50-0, Fax: +43/1/811 50-5009

www.frequentis.com

FREQUENTIS

VCS**3020X**
Voice Communication System

FREQUENTIS

VCS3020X - Because we care

Frequentis has a long history of delivering communication solutions for Air Traffic Management. Starting in 1948 with the first system, Frequentis has become the world market leader in ATM voice communication. We believe in good engineering, quality, and trust, therefore it is our passion to build the best solutions available on the market. Our customers acknowledge this by using over 22,000 VCS3020X working positions in over 80 countries across the globe. We care for dialogue with our customers, take on new challenges together, and bring safety-critical communication forward into a safer future.

BECAUSE WE CARE - FOR A SAFER WORLD

VCS3020X – from small towers to international collaborative operations

VCS3020X provides safety-critical Air/Ground and Ground/Ground communication in its most reliable form, for single and networked ACCs, approach and tower. VCS3020X's high-performance VoIP technology combines the vast experience and superior functional level of the market leader – resulting in unique functions and performance which really matter to your business. Compared to other suppliers, IP technology in the Frequentis systems has not compromised established quality of service and safety levels or the pillars of VCS3020X success:

→ Distributed intelligence across the system elements creates unrivalled resilience
→ Duplicated and parallel operating Local Area Network (LAN)-infrastructure without single point of failure

SMART3020X – FULL 3020X PERFORMANCE AND FEATURE SET FOR COMPACT TOWER SYSTEMS
smart3020X provides an economical package especially focussed on tower deployments. Whilst no sacrifices are made on the functional level, smart3020X saves rack space and minimises costs.

VCS3020X - The World's first VCS supporting Dynamic Sectorisation

VCS3020X is a cornerstone component for a more flexible approach to airspace use. One of the goals of dynamic airspace use is to create more interoperability between ANSPs or different control centres, both from an operational and technical perspective. VCS3020X adds to this the capabilities to share workloads, network resources and management responsibilities:

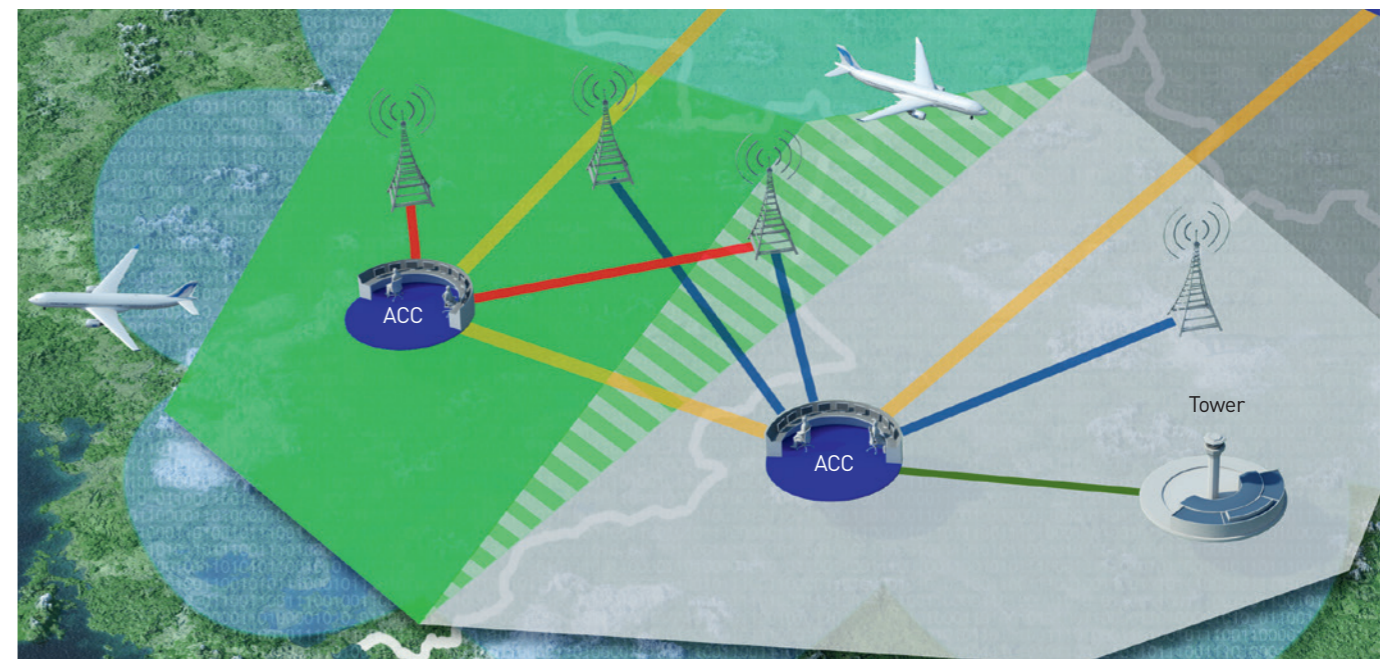| → SHARING WORKLOADS	→ SHARING RESOURCES	→ SHARING MANAGEMENT RESPONSIBILITIES
VCS3020X increases efficiency by integrating an advanced role concept. This allows workloads to be easily distributed across control centres at times of peak activity, while sectors can be merged when traffic is low.	Sharing of radio resources: With VCS3020X different control centres are able to access the same radio communication equipment in a safe and reliable manner.	Sector delegation: To ensure that no airspace is ever left unassigned, the handover of airspace responsibilities is conducted through an acknowledged workflow process, where VCS3020X guarantees a gap-free handover.

VCS3020X - Advanced VoIP performing to your business needs

With the VCS3020X, the broadest portfolio of functions and flexible configurations bring tangible benefits to your bottom line.

CONSENSE LAYOUT FOR REDUCED OPERATOR HEAD DOWN TIME

The unique and superior VCS3020X **CON**text-**SENS**itiv**E** (CONSENSE, patent pending) layout **reduces the complexity** of the console layout by showing only functions relevant to the current operational state. This reduces the possibility of errors, and gives the controller the most intuitive GUI available. The same investment buys you safer and more efficient ATM operations – up to 29% usability gain is possible.

RADIO BACKUP POOLING LOWERS YOUR INVESTMENT

This new concept uses **a pool of backup radios to eliminate the need for a 1-to-1 ratio between main and standby devices.** Based on standardised ED-137 mechanisms this concept works with all compatible radios, and in real time fully automated directly from the VCS3020X.

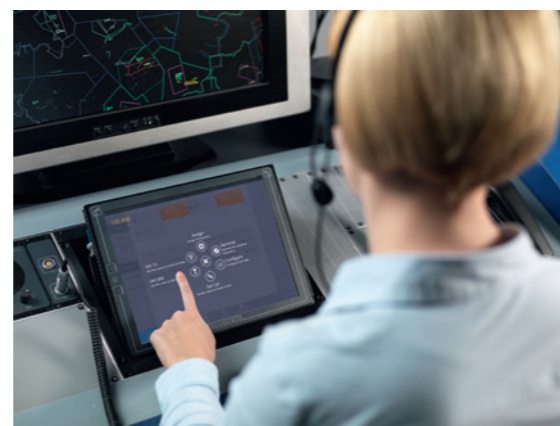### HIGHEST PERFORMANCE AT LOWEST COST OF OWNERSHIP

VCS3020X offers high performance: **The fastest IP VCS combines the shortest audio and signalling delay times available** with **1,000 operational roles and an impressive 23 million operating hours.** Reliable components, spare parts and smart ILS concepts as well as a clear upgrade path for a life time minimise your OPEX.

INTEGRATED IP BACKUP APPLICATION AND EMERGENCY COMMUNICATION SYSTEM

Frequentis provides an IP backup application which runs independently on the operator position. This **backup/ emergency system allows access to networked radio and/ or telephone resources via an independent IP-network, bypassing the main communication infrastructure.**

VCS3020X - Trusted by 22,000 Air Traffic Controllers every day

As the technology leader in ATM communications, Frequentis has implemented over 500 successful projects in over 80 countries all around the globe. The trust our customers have in us is shown by the many references and best practice examples. More than 22,000 VCS3020X working positions are in operation day and night.

VCS3020X adheres to the ED-153 software assurance level 3 (SWAL-3) down to the architectural layer, providing an end-to-end traceability of system requirements, software requirements and test cases. In this way the proven and unrivalled quality of the VCS3020X system is a major part of the overall safety case and the ESARR6 fulfilment for the ANSP.

Our experienced and certified project teams have realised many customer-specific solutions around the VCS3020X, available within the scope of the product. Different backup solutions for radio and telephone, concepts for network and IP migration planning, and enhancements and upgrades to the operational systems are created according to the individual needs and circumstances of each ANSP.

We assist you focussing on your core business with our integrated 24/7 support packages offering spare part handling, repairs, or immediate help in case of unforeseen events. Our experienced service managers are committed to delivering effective tailor-made solutions, which are vital for maintaining long-term partnerships. With their strong hands-on approach they plan, execute, and supervise your change requests and service improvements and manage third parties. They report to you on a regular basis to keep track of the performance and health of your system.

VCS3020X - The networked Voice Communication System

IP TECHNOLOGY WITHOUT COMPROMISES

VCS3020X has introduced IP technology without compromising established quality and safety levels, using the lowest internal system delay times available on the market in an IP-based system. VCS3020X supports ED-137 VoIP standards and legacy telephone and radio interfaces, enabling deployment exactly as required for your economic or technical needs.

→ **VCS3020X IN THE IP RADIO NETWORK**

Going beyond the ED-137 standards, VCS3020X offers radio networking functions to put IP technology to practical use: two-way dynamic delay compensation, radio network redundancy with seamless failover, and integrated radio remote control up to the controller working position are just a few examples.

→ **ROLE HANDOVER BETWEEN AREA CONTROL CENTRES**

The central element of the VCS3020X dynamic sectorisation is inter-centre role handover. Using the network to publish role availabilities, handover procedures are conducted in a safe and controlled manner, ensuring full access to radio resources and controllers in all involved centres, both for systems in and outside of the network.

→ **VCS3020X & GROUND-TO-GROUND NETWORKING**

With the changing structure of airspace, the demands for telephony are also changing. The VCS3020X uses advanced routing principles, dynamically adapted to the location and availability of roles in the networked system.

Legacy interfaces are included in this concept to enable independence between the new boundaries of airspace responsibility.

→ **ALL YOU NEED IN AN ECONOMIC PACKAGE**

Especially for tower deployment smart3020X provides a system package tailored to the needs of smaller systems. This means no compromises with respect to functionality as the full 3020X feature set is available in a rack-space optimised hardware set.

Tower

Tower

Tower

ACC

ACC

ACC

ACC