R&S®SECOS features

COMSEC: communications security
- Voice/data encryption/decryption (stream cipher)
- High-speed data transmission
- High key variation
- Excellent speaker recognition

TRANSEC: transmission security
- Frequency hopping
- Flexible hopping frequency allocation
- Low probability of intercept (LPI)
- Time distribution management
- COMSEC included

The combination of TRANSEC and COMSEC ensures highly effective immunity to electronic attack and counter measures. Excellent transmission quality is due to voice/data compression and expansion techniques.

Operation services
- Voice
- Data (continuous, TDMA)

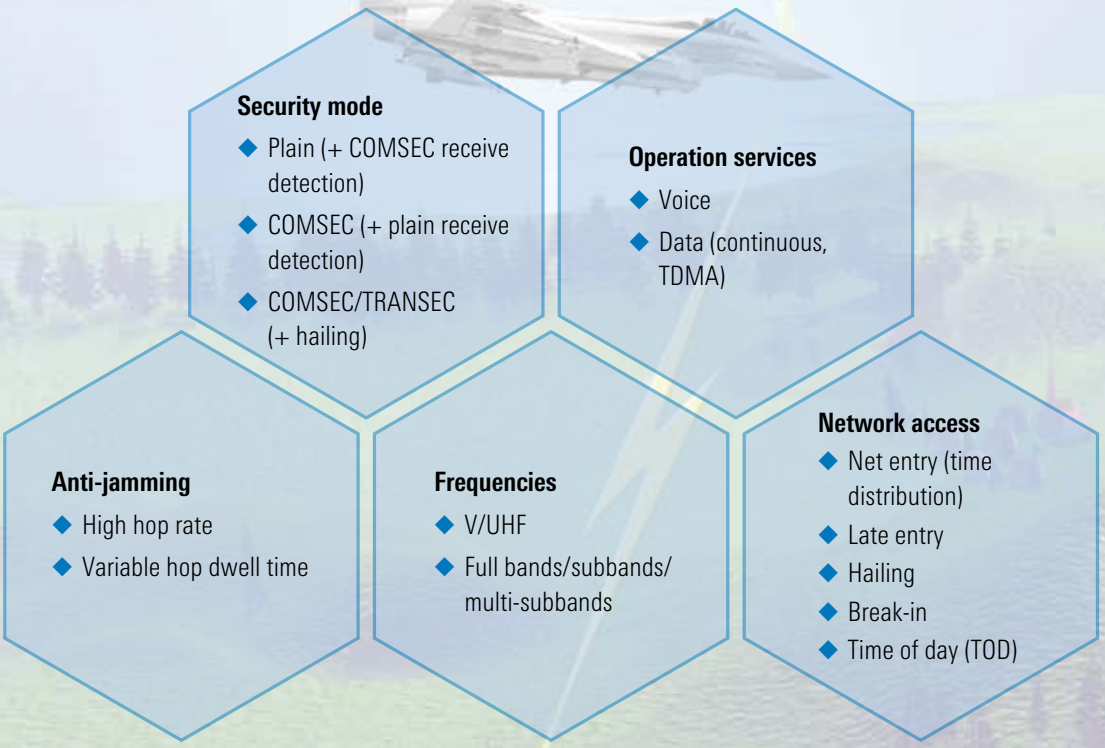
Data communications
- Integrated forward error correction (FEC)
- Broadcast and addressed data distribution

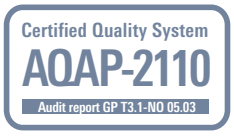
Anti-jamming
- High hop rate
- Variable hop dwell time

Frequencies
- V/UHF frequency band
- Simultaneous networks due to sophisticated frequency management

Network access
- Various time synchronization methods
- Net entry: procedure to obtain the correct system time
- Late entry: procedure that allows access to an established R&S®SECOS network taking into account the intrinsic system time error
- Break-in: high-priority interruption of an established R&S®SECOS link by another R&S®SECOS transceiver
- Hailing: detection and indication of a fixed frequency call

R&S®SECOS functionality overview





More information at
www.rohde-schwarz.com
(search term: SECOS)

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R&S®SECOS

Secure EPM (ECCM) Communications System
Interoperable waveform for airborne, naval and army applications

- One EPM (ECCM) waveform for Rohde & Schwarz families of software defined radios as R&S®M3AR (airborne), R&S®M3SR (stationary/shipborne) and M3TR (tactical)
- Voice and data modes
- TDMA mode
- Embedded crypto mode
- Excellent voice quality
- Flexible key and frequency management
- Remote black key loading

M3AR M3SR M3TR

ROHDE&SCHWARZ

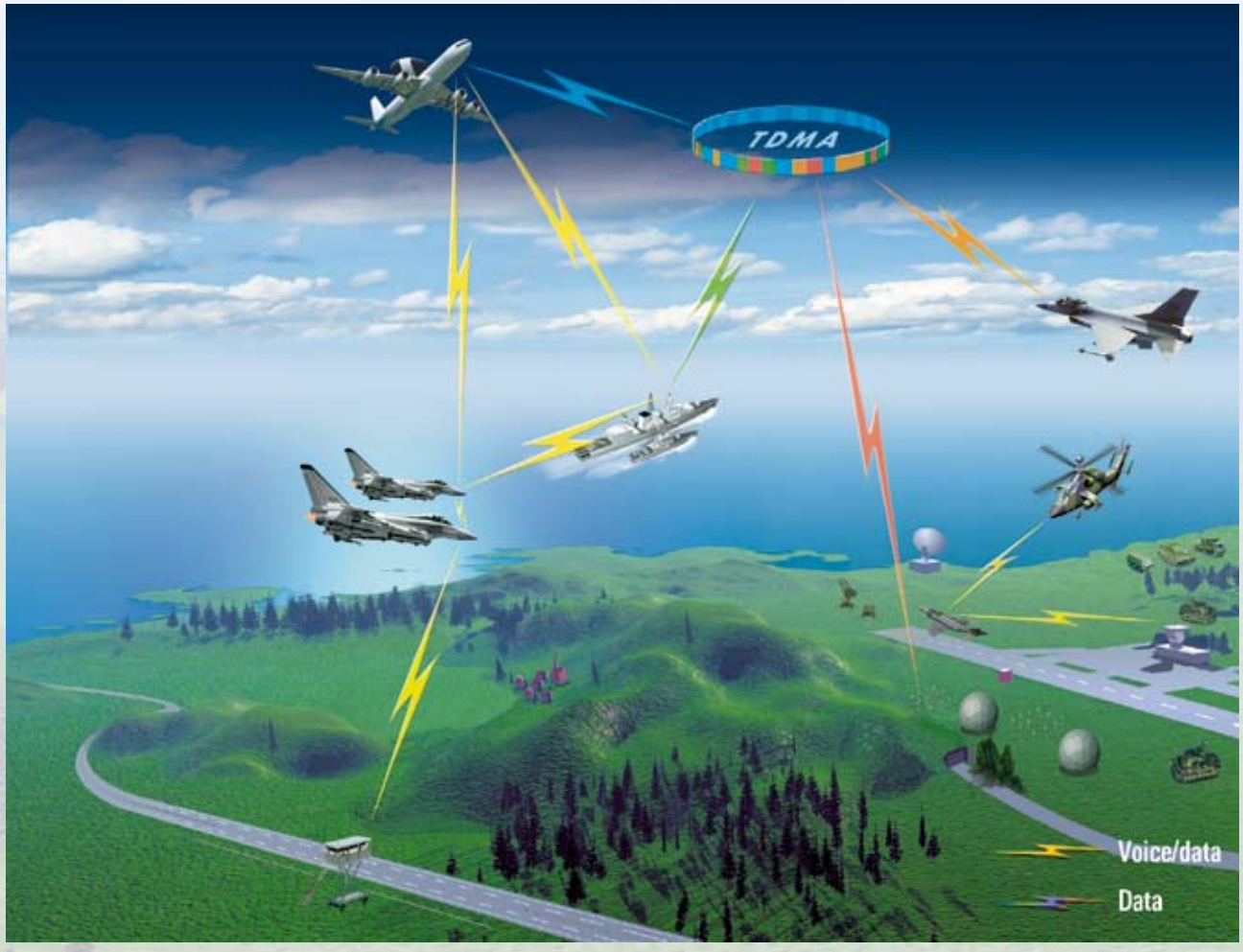
Secure and reliable voice and data communications

Network centric warfare (NCW) scenarios require secure communications links. Modern radiocommunications links must be protected and reliable when operating in tactical missions (intra & joint), because secure communications are mandatory for mission success. Rohde & Schwarz has an intelligent solution to this requirement – the R&S®SECOS **Secure EPM (ECCM) Communications System**.

Typical applications of the R&S®SECOS:

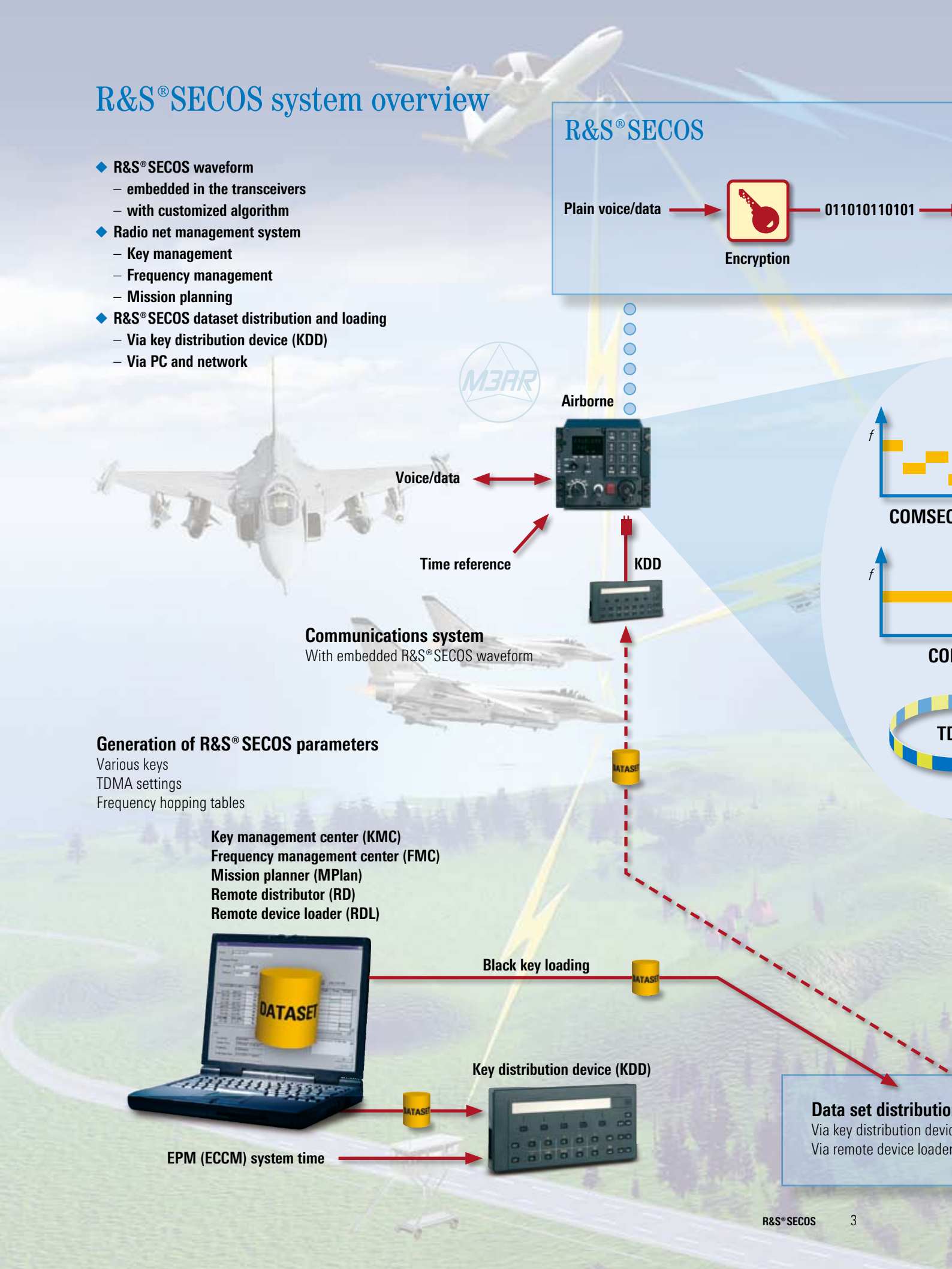
- Airborne early warning, AEW (voice/data)
- Data exchange between participants in the tactical scenario
- Ship-to-ship and ship-to-shore (voice/data)
- Sensor data networks
- Forward air controller

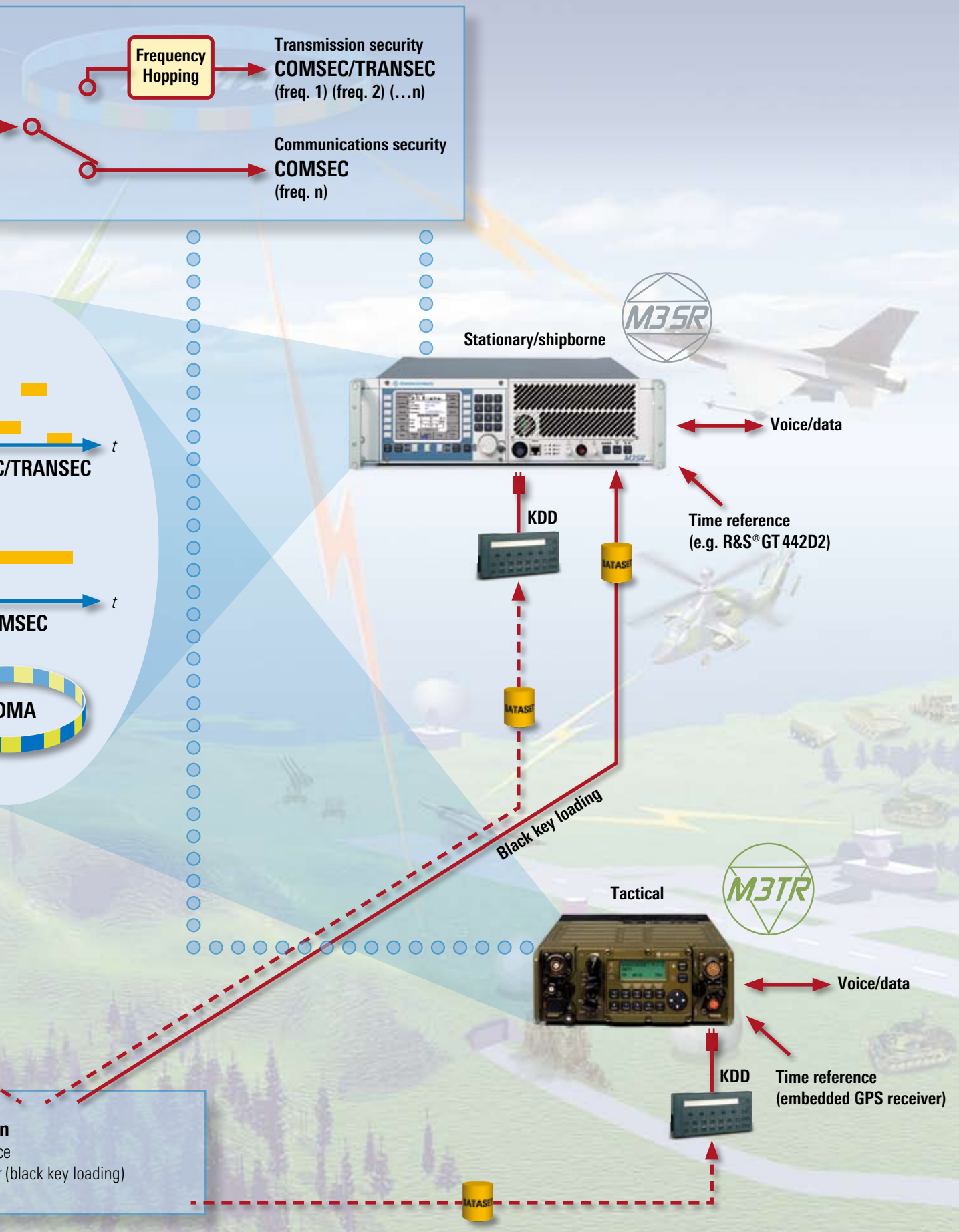
The R&S®SECOS system is a sophisticated solution for voice and data communications in the VHF band (30 MHz to 88 MHz optional) and UHF band (225 MHz to 400 MHz). It enables coordinated operation between fixed/mobile ground, shipboard and airborne applications to counter all present and future threats in the electronic warfare scenario such as interception, intrusion, deception and jamming. The R&S®SECOS allows collision-free simultaneous operation of several R&S®SECOS frequency hopping networks. The R&S®SECOS provides embedded encryption with strong algorithms. Each R&S®SECOS waveform embeds a customized algorithm and is therefore unique.



R&S®SECOS system overview

- R&S®SECOS waveform
  - embedded in the transceivers
  - with customized algorithm
- Radio net management system
  - Key management
  - Frequency management
  - Mission planning
- R&S®SECOS dataset distribution and loading
  - Via key distribution device (KDD)
  - Via PC and network




Frequency Hopping
Transmission security
COMSEC/TRANSEC
(freq. 1) (freq. 2) (…n)
Communications security
COMSEC
(freq. n)
t
C/TRANSEC
t
MSEC
DMA
n
ce
r (black key loading)
M3SR
Stationary/shipborne
Voice/data
KDD
Time reference
(e.g. R&S®GT 442D2)
DATASEC
DATASEC
Black key loading
M3TR
Tactical
Voice/data
KDD
Time reference
(embedded GPS receiver)
DATASEC