



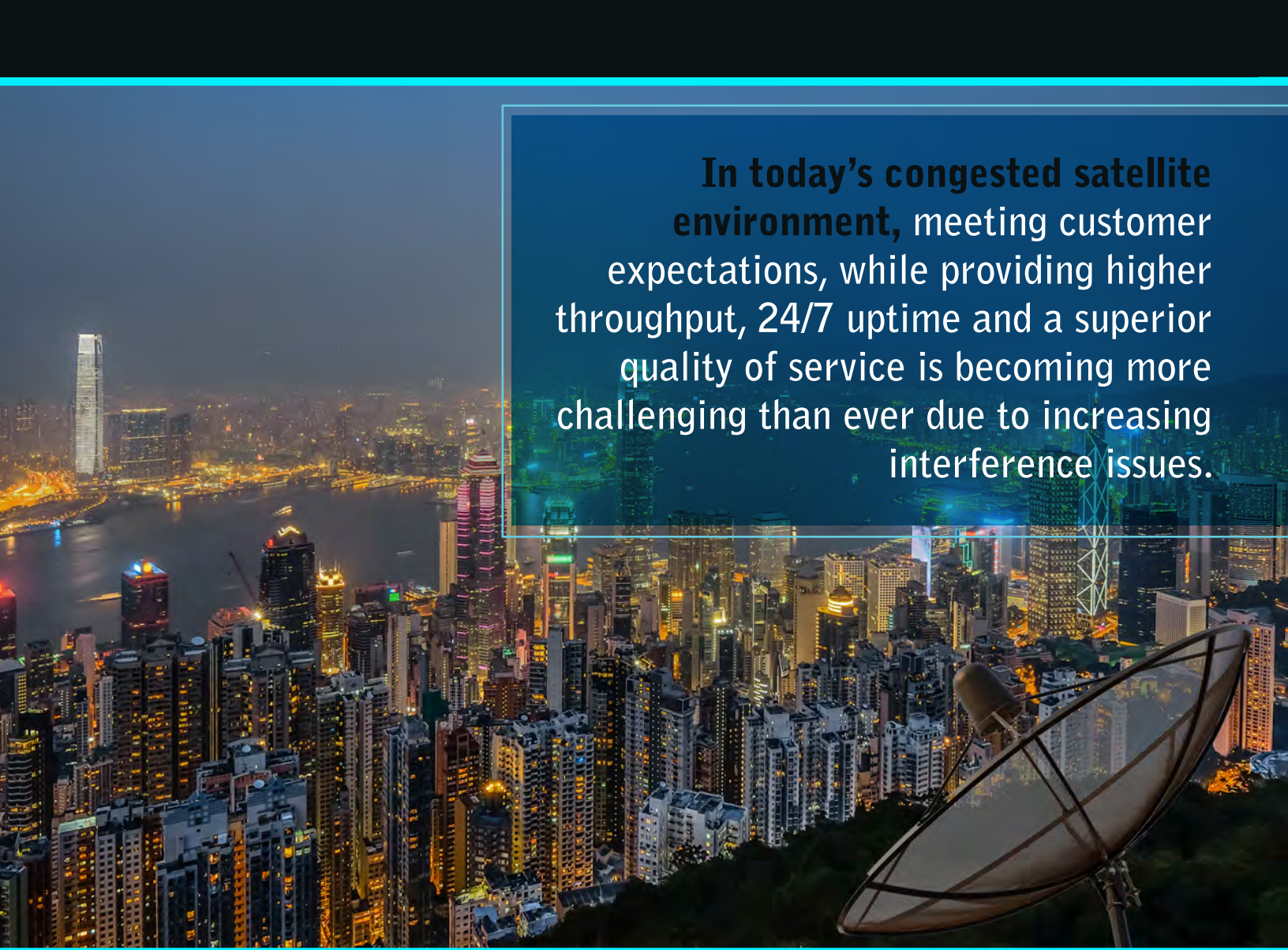
MONICS[®]

THE MOST COMPREHENSIVE
CARRIER MONITORING
AND MITIGATION SUITE

Protecting Quality of Service

KRATOS[®]



A night view of a city skyline, likely Hong Kong, with a large satellite dish in the foreground. The city lights are reflected in the water, and the sky is dark. The satellite dish is a large, parabolic antenna mounted on a tripod.

In today's congested satellite environment, meeting customer expectations, while providing higher throughput, 24/7 uptime and a superior quality of service is becoming more challenging than ever due to increasing interference issues.

Protecting Satellite Signal Service Quality...


The Monics® family of RF interference (RFI) mitigation products offer the most comprehensive capabilities to help satellite operators, service providers and broadcasters deliver the levels of service quality customers expect.

The Monics product family provides advanced and scalable quality of service monitoring and also delivers interference resolution capabilities. The complete suite helps operators characterize signals, identify interference, geolocate the source and cancel interfering signals.

The intuitive Monics software helps to minimize the complexity of the underlying infrastructure to deliver the data operators need to monitor carriers quickly and effectively.

SES RELIES ON MONICS FAMILY TO HELP OPTIMIZE SATELLITE OPERATIONS

The world-leading satellite operator uses the Monics family of products to monitor carrier performance and minimize interference across its fleet of satellites to deliver high quality of service for customers. With enterprise level visibility, operations staff monitor carriers and VSAT networks and identify, geolocate and resolve interference issues quickly.



The Monics product family helps safeguard bandwidth, optimize troubleshooting resources and assure customer services leading to improved business performance.

Protecting the Business...

THE MONICS PRODUCT FAMILY HELPS TO PROTECT:

REVENUE: Reduce customer churn rates and minimize high contract penalties with the most advanced carrier monitoring, interference identification, geolocation and resolution capabilities.

GROWTH: Address increasing customer demand and exponential HTS monitoring requirements with the most cost efficient, scalable, modular and configurable system.

RESOURCES: Optimize workforce productivity by accelerating troubleshooting efforts, centralizing management, analysis and automated monitoring.

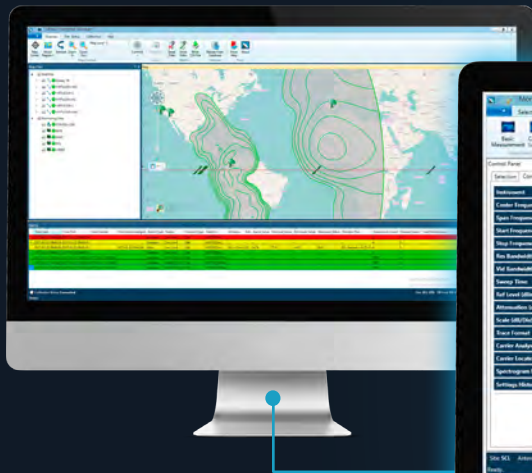
INVESTMENTS: Assure satellite performance with continuous monitoring of bandwidth availability, analyzing signal performance over time and enhancing visibility of operations across the enterprise.

MONICS SUPPORTS INTELSAT IN ASSURING GLOBAL SATELLITE SERVICES

Operating one of the world's largest satellite services business, Intelsat relies on the Monics product family to monitor the performance of carriers and detect interference across its entire fleet of satellites. The operations team is able to deliver highly accurate geolocation results, control workforce processes and provide better visualization into real-time operations.

Protecting RF Operations...

MONITOR CARRIERS AND IDENTIFY INTERFERENCE

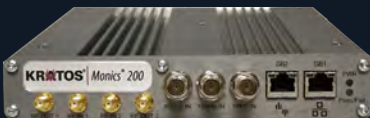


User access control
and map displays
Monics Enterprise



**Comprehensive
and scalable
carrier
monitoring
Monics Net**

SCALABLE ARCHITECTURE OPTIONS



Spot Beams
Monics 200



Single site
Monics Digital
Spectrum Analyzer (DSA)



Multi-site
Monics Digital Signal Processor (DSP)

Monitor Carriers and Identify Interference

The Monics family of RF interference (RFI) mitigation products offer complete monitoring capabilities in a modular, scalable and highly configurable system to support a range of requirements from small sites to enterprise environments.

Monics Net & Enterprise:

Most advanced carrier monitoring and interference detection product

- **Scalable and Centralized:** Monitor a single site with one measurement device to multi-site configurations with thousands of measurement devices on each site from a central NOC

- **Wide to Spot Beam Monitoring:** Monitor HTS and traditional beams with map based displays that enable operators to drill down into signal analysis within two clicks
- **Enterprise-Level Capabilities:** Optimize workforce productivity with control of user access to applications, devices and space segments and provide customers with visibility into performance of their satellite bandwidth
- **VSAT Scanning:** Perform automatic classification of continuous (TDM) and burst (TDMA) carriers

Monics Digital Signal Processing (DSP) Technology:

The Monics DSP technology works in combination with the monitoring software to deliver sophisticated interference detection, far beyond a traditional spectrum analyzer. Monics displays standard frequency and power measurements, but also advanced time domain measurements.

The industry leading Monics RFI Mitigation Suite

LOCATE AND MITIGATE INTERFERENCE

Identify VSAT terminals causing interference in minutes

SatGuard

Fast and accurate geolocation

satID

Real-time interference cancellation

SigX



- **Minimize loss of revenue** by identifying interfering signals underneath revenue generating bandwidth without service interruptions
- **Optimize investments** by using Kratos' DSP technology in conjunction with existing spectrum analyzers as part of a fully integrated Monics system
- **Accelerate time to resolution** with fast measurement speeds enabling rapid analysis of carrier performance

Identify, Locate and Mitigate Interference

SatGuard:

Unique technology that in minutes identifies VSAT terminals causing interference

- **VSAT Monitoring:** Provide real-time VSAT interference management quickly and automatically

satID:

Fastest, most accurate and intuitive geolocation solution

- **Signal Geolocation:** Identify sources of interference faster and more accurately to within 5 km and use map based displays to improve staff effectiveness
- **VSAT Geolocation:** Determine the physical location of terminals causing interference

SigX:

Automatically cancels interference in real time with no human intervention

- **Signal cancellation:** Protect time-sensitive delivery of high value communications by pro-actively cancelling interference

Protecting Against Increasing Interference

Monics provides fully featured and cost effective interference identification and mitigation for HTS spot and wide beams.



Today's environment of HTS, VSATs and mobile applications bring new demands to monitoring the RF environment effectively. The Monics product family includes a complete range of DSP enabled measurement instruments to monitor HTS spot beams, traditional wide-beams or hybrid environments with both.

ADVANCED MEASUREMENT INSTRUMENT OPTIONS

MONICS 200

Fully featured, cost effective sensor for HTS spot beam monitoring

- Monitors HTS spot beams, fly-away environments and small sites with limited monitoring requirements
- Includes three integrated capabilities, a Local Network Server (LNS), DSP instrument and L-band switch in one form factor
- Detects and analyzes interfering signals using a self-contained and standalone device
- Available as part of a transportable sensor solution or deployable kit

MONICS DSP 5500 AND 6000

High performance spectrum monitoring and analysis

- Supports customers monitoring many satellites from one location
- Delivers rapid measurements of entire transponders to maintain traffic quality
- Works in conjunction with the Monics family of products
- Available in three configurations:
 - 5500 with 80MHz of instantaneous bandwidth
 - 6000 with 250MHz or 500MHz of instantaneous bandwidth



Beyond assuring the spectrum, the Monics family connects with Kratos' enterprise products to **monitor across satellite and terrestrial operations.**

With visibility into carrier, network and service performance, operators are better able to ensure customers experience a high level of service quality.

The world's largest satellite operators, service providers, network operators and government institutions rely on Monics



80%

of satellite operators

60



Deployed in 60 countries



90%

of U.S. space missions



300

Used at over 300 customer sites

ABOUT KRATOS

For more than 30 years Kratos has been the acknowledged leader in ground segment products and services that assure the availability, reliability, security and service quality of satellite and terrestrial networks. Kratos products and services are used by more than 80% of commercial satellite operators around the world, as well as broadcasters, service providers and government agencies, including support for 90% of U.S. space missions.

Kratos offers enterprise-grade solutions across the ground segment, including: carrier management, RF interference mitigation, network monitoring and control, service quality management, satellite command and control, signal processing and protection, tailored antenna solutions and more.

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