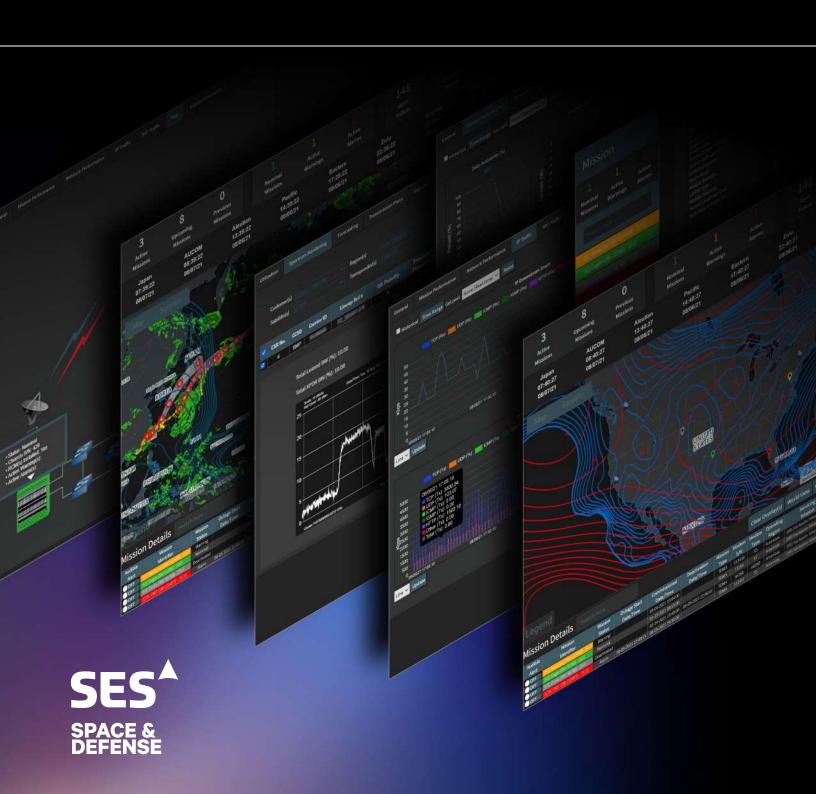
ICT PORTAL

SINGLE PANE OF GLASS NETWORK VISIBILITY

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The Information & Communications Technology (ICT) Portal from SES Space & Defense is a web-based NetOps capability that can be accessed anywhere in the world and provide a consolidated and transparent view of key information into a customer's network performance, utilization and general situational awareness.

The ICT Portal places precise performance analytics and actionable data in the hands of key decision-makers through near real-time monitoring and reporting capabilities. Users can monitor, from anywhere in the world, hybrid, complex networks consisting of disparate systems, siloed software, multiple nodes, and various types of equipment that inherently do not communicate with one another.

CAPABILITY OVERVIEW:

- · Technology agnostic
- Common operating picture (single pane of glass)
- Modular design easily customize views and reporting
- Simple and secure login via any IP connection (private network, or firewalled Internet)
- Complete monitoring of network operations for near realtime performance visibility of hybrid terrestrial and satellite wide area networks
- Alarm awareness, predictive troubleshooting via targeted data presentation
- · Centralized data repository (resource library)
- Enhanced Information Technology Service Management (ITSM) features and functionality





THE ICT PORTAL'S THREE PILLARS OF SECURITY

CONFIDENTIALITY

Ensuring that only authorized persons have access to your information and denying access to those who are unauthorized.

INTEGRITY

Ensuring information cannot be changed undetected by protecting against improper modification and/or destruction with encryption and hashing.

AVAILABILITY

Ensuring information is available whenever needed, including timely and reliable access, regardless of time of day, location, or other factors.

Protecting the confidentiality, integrity, and availability of public and private sector data is at the forefront of our ICT Portal capability development initiative. Given the increasing need to adhere to FISMA regulatory compliance, SES Space & Defense selected ServiceNow and AWS as key components of the core ICT Portal architecture that drives the frontend portal interface and establishes the back-end data connections. Both vendors maintain FedRAMP High for their Government Cloud services.



Seamless integration with the SES Space & Defense Global Communications Network (GCN) supports current Risk Management Framework (RMF) posture and Authority to Operate (ATO)

The back-end data connections are integrated into the SES Space & Defense Global Communications Network (GCN) which has a U.S. Department of Defense (DoD) Risk Management Framework (RMF) Authorization to Operate (ATO). The SES Space & Defense ICT Portal implements over 180 additional security controls and has a highly trained and dedicated staff of cybersecurity experts to continuously monitor and support the ICT Portal.

Security regulations that SES Space & Defense follows:

- DISA Security Technical Implementation Guides
- Application Development and Security Version 5
- Microsoft SQL Server 2016
- NIST Frameworks
- Risk Management Framework (SP-800-37)
- Security and Privacy Controls for Information Systems (SP-800-53)
- Protecting Controlled Unclassified Information in Non-federal Systems (SP-800-171)
- Continuous Monitoring (SP-800-137)
- FIPS 140-2 (Data at Rest and Data in Transit Encryption)

Security regulations that AWS Gov Cloud and ServiceNow Government Community Cloud follow:

• FedRAMP High Authorization.

Additional ICT Portal security control categories

- Access Control
- Risk Assessment
- Identification and Authentication
- Incident Response
- System and Communications Protection
- Maintenance
- System and Information Integrity
- Media Protection
- Defense in Depth and Boundary Protection
- · Contingency Planning
- Physical and Environmental Protection
- Awareness and Training
- Audit and Accountability
- Assessment, Authorization, and Monitoring
- Personnel Security
- · Configuration Management
- Vulnerability and Patch Management

ICT PORTAL

The SES Space & Defense ICT Portal can be customized to customer requirements and offer a consolidated view of ecosystem management and operations so customers can see in near-real time how their network is performing. The ICT Portal can include views into trouble ticket status, network status down to the end-user device, performance metrics, and status of projects or upgrades. The SES Space & Defense ICT Portal complies with NIST and DoD Risk Management Framework (RMF) security standards.

The ICT Portal uses the same holistic and vendor-agnostic approach that the SES Space & Defense ICT Ecosystem is engineered with, providing customers with a comprehensive and flexible monitoring and reporting solution. Customers now have the advantage of not only a single source for managing, operating, and troubleshooting the network from end-to-end, they have a single window where they can see the network for themselves in near-real time. This gives customers a tremendous advantage by providing key information to improve decision-making in the fast-paced environments in which they operate. The ICT Portal from SES Space & Defense is not just a source of information, but an invaluable capability for mission assurance.

The SES Space & Defense ICT Portal provides views into:

SPACE SEGMENT

- · Capacity Management
- Spectrum Monitoring
- Bandwidth Forecasting/Reservation*
- AI/ML Capabilities*

GROUND SEGMENT

- End-to-end Configuration Details
- End-to-end Performance Monitoring
- End-to-end Events/Conditions
- Congestion Management*

NETWORK MANAGEMENT

Cybersecurity

- FedRAMP Authorized Cloud Services
- · Role Based Access Control

ITSM

- · Ticketing/Reporting
- · Asset Management
- · Knowledge-base
- Ordering/Billing*

Operational Tools



View carrier and transponder layouts and key metrics with Carrier Visualizer



Use satellite footprint and weather overlays to increase situational awareness of network performance



Quickly see critical remote (mission) configuration and performance details at a glance



Focus in on remote (mission) KPIs in the mission performance view



Easily ensure traffic optimization by determining remote (misson) network traffic consumed by protocol type



See near real-time satellite transponder spectrum views with Transponder Trace



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^{*} future capabilities