

ENHANCE OIL & GAS OPERATIONS *WITH TAIT* COMMUNICATIONS



SAFE, FLEXIBLE, RELIABLE

Drive up safety and productivity with Tait Communications solutions for Oil & Gas operations. Tait solutions are designed for maximum flexibility and reliability to provide long-term value from your investment.

ta^{it}
communications

MOBILE COMMUNICATION IS CRUCIAL FOR THE OIL & GAS INDUSTRY.

REMOTE OPERATIONS

Many Oil & Gas operations are located in remote areas, such as offshore platforms or isolated fields, very often in harsh environments. Robust mobile communication systems ensure seamless connectivity between these remote sites and central offices, enabling effective coordination and management.

SAFETY

Safety is a top priority in the Oil & Gas industry. Tait enables real-time monitoring and quick response to emergencies, with clear team communications, emergency calls, automated worker safety alerts, location services and more.

SECURITY

With bad actors increasingly targeting Oil & Gas companies to disrupt operations, it is imperative that critical communications networks have robust security layers to adequately protect both staff and company access.

OPERATIONAL EFFICIENCY

Efficient communication is essential for coordinating complex operations, such as drilling, extraction, and transportation.

COLLABORATION

Mobile communication tools, such as voice, video, and data communication, enable instant collaboration among teams, regardless of their geographic location.

Overall, mobile communication is a lifeline for the Oil & Gas industry, ensuring safety, efficiency, and effective management of operations.

Tait offers a range of solutions to address the mobile communication challenges of the Oil & Gas industry.

COMPREHENSIVE SOLUTIONS FOR OIL & GAS COMMUNICATIONS

Highly flexible standards-based solutions that can be tailored to the needs of your current operation and adaptable to meet your future needs:

- ▶ Network infrastructure and Devices
- ▶ Software, Services & Support
- ▶ Broadband (Cellular, WiFi, Ethernet)
- ▶ DMR Tier 2 and Tier 3
- ▶ P25 Phase 1 and 2
- ▶ MPT-IP, MPT 1327
- ▶ Analog Conventional
- ▶ Simulcast Networks
- ▶ Intrinsically Safe (IS) Devices
- ▶ Technology Partner Integration





WORKER SAFETY

Worker Safety is a top priority for Oil & Gas operations around the world. Keeping them connected and informed is key to a safe and efficient workplace. Oil & Gas workers are exposed to risks every day and the key technology employed in reducing risks and mitigating the effects of accidents and major incidents is the wireless communications and intrinsically safe devices that provide a reliable, high redundancy and resilient connection between the worker, their colleagues and the control centre throughout the site.



CALL AVAILABILITY

The safety of each worker depends on their ability to make and receive calls without delay when required. Tait services can include coverage, capacity and functionality planning for your network, ensuring you have the maximum coverage and connectivity in your area.



CALL CLARITY

Our advanced radio technology provides better noise rejection and preserves voice quality to the edge of coverage. When emergencies occur, improved call clarity will buy your workforce precious seconds to respond.



LOCATION SERVICES

Enable your management team to know the precise location of workers and assets so you will know exactly where to send help. The new location-based business applications also provide location-specific warnings and vital information during emergencies.



SAFETY AUTOMATION

Tait portables are equipped with sensors to detect falls and inactivity timers that can automatically trigger alarms. Should an accident occur, dispatch will receive an alert and can send help immediately to the right location.



| SECURITY

Cyber-crime and terrorism are growing security challenges that resource organizations must address. The data communication network gives visibility, and sometimes even control to anyone with access. It is vital that these networks remain secure from outside listeners and influences.



ENCRYPTION FOR SECURE COMMUNICATIONS

Tait networks and devices support authentication and encryption.



SECURE NETWORK ACCESS CONTROL

The latest Tait networks provide industry best practice security solutions for your organization by supporting secured HTTPS ports for web based configuration and management, VPN servers on the node controller and virus scanners on any equipment running a standard operating system. Tait network monitoring tools also support SNMP v3.



CORE TAIT NETWORK SECURITY

Remote access to the core Tait network is only via IP connection which operates via Secure Shell (SSH) utilizing encrypted traffic between the client and the server, and via the Dell iDrac which uses encrypted traffic (HTTPS). Display and menus on the Tait base station can be disabled to prevent unauthorized changes to the base station by those physically on site.



ISO 27001 INFORMATION SECURITY MANAGEMENT SYSTEM

We comply with ISO 27001:2013 standards and are certified through independent third-party audits on an annual basis.

The ISO 27001:2013 certification provides peace of mind; it ensures procedures and controls are in place to protect confidentiality, maintain integrity, and ensure availability of all information stored, processed and transmitted through information systems managed by Tait on behalf of Tait Customers.

INTRINSICALLY SAFE PORTABLES

Intrinsically Safe (IS) devices are essential for the Oil & Gas industry:

- ▶ Explosion Prevention
- ▶ Reliability
- ▶ Compliance with Safety Standards
- ▶ Reliable Communication
- ▶ Emergency Response

IS radios are a key component in maintaining safety and operational efficiency in the Oil & Gas industry.

TP9361 OR TP9461 INTRINSICALLY SAFE

Portables designed and tested for operation in hazardous environments, meeting global IS standards (IECEx, ANZEx, ATEX, AEx, CAEx).

Key features:

- ▶ IIA MODEL: 1-5W power output (VHF), 1-4W (UHF), 1-2.5W (700/800MHz)
- ▶ IIC MODEL: 1W power output
- ▶ TP9361: analogue conventional, MPT, DMR Tier 2, DMR Tier 3
- ▶ TP9461: analogue conventional, P25 conventional, P25 Phase 1, P25 Phase 2
- ▶ IP67 Dust- and Waterproof, MIL-STD-810G
- ▶ Lone Worker and Man Down functions
- ▶ Programmable Emergency Key
- ▶ Integrated GNSS for Location Services with GEO-fencing
- ▶ Encryption ARC4, DES and AES
- ▶ Available in: ●



TP9358/TP9368, TP9458/TP9468 INTRINSICALLY SAFE

Designed and certified in the US and Canada for operation in Division 1 hazardous environments.

Key features:

- ▶ Class I – Gas, Groups A, B, C, D
- ▶ Class II – Dust, Groups E, F, G
- ▶ Class III – Fibers & Flyings
- ▶ TP9358/68: analogue conventional, MPT, DMR Tier 2, DMR Tier 3
- ▶ TP9458/68: analogue conventional, P25 conventional, P25 Phase 1, P25 Phase 2
- ▶ IP67 Dust- and Waterproof, MIL-STD-810G
- ▶ Lone Worker and Man Down functions
- ▶ Programmable Emergency Key
- ▶ Integrated GNSS for Location Services with GEO-fencing
- ▶ Encryption ARC4, DES and AES
- ▶ Available with 4-key (TP9358/TP9458) or 16-key (TP9368/TP9468) front panel
- ▶ Available in: ●●●



TAIT DMR & P25 NETWORKS

Tait designs and builds a range of IP based digital network solutions from simple single repeater site through to large statewide multiuser systems. Tait networks can be designed to provide whatever coverage and capacity you need with the ability to easily add and grow when needed.

All Tait DMR and P25 Networks share common hardware and architecture making them highly flexible and scalable. Simulcast is available for all network formats to provide the greatest spectrum efficiency and coverage.

Resilient network design options including High Availability (redundant) site controllers and network controllers including geographic diversity.

STANDARDS BASED NETWORK FORMATS

- ▶ DMR Tier 2 Conventional
- ▶ DMR Tier 3 Trunked
- ▶ P25 Conventional
- ▶ P25 Trunked Phase 1
- ▶ P25 Trunked Phase 2

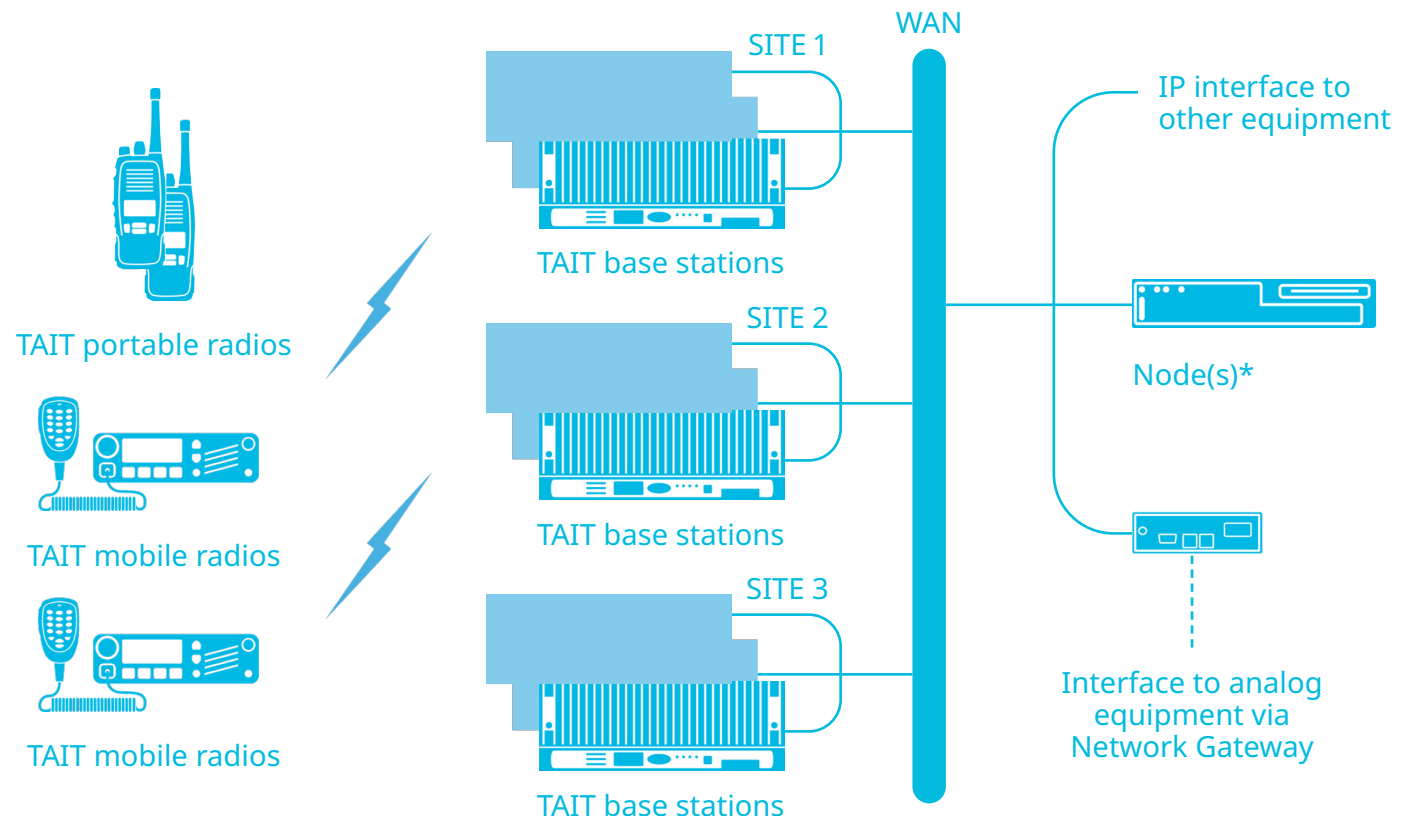
BASE STATION TB9400



BASE STATION TB7300



TRANSPORTABLE BASE STATION





TAIT AXIOM BROADBAND DEVICES

LTE & WIFI DEVICES & APPLICATIONS

Tait offers a range of broadband devices and applications for voice and data – these can be deployed as standalone broadband solutions or integrated with LMR networks.

Modern Oil & Gas fields and the Oil & Gas up-mid-down streams can leverage broadband for field communications. This can enable greater coverage using a mix of LMR and broadband wherever it is available which saves money along with the ability to choose the right devices for each role – radio users can communicate with smartphone users.



taït AXIOM
WEARABLE



SMART DEVICE
APPLICATIONS



taït AXIOM
MOBILE

TAIT SCADA & TELEMETRY

All Tait networks and devices have data capabilities and interfaces. Tait DMR Tier 3 networks also have specialist SCADA capabilities with the TD9300 M2M fixed data terminal, designed for dedicated wide area monitoring and control.

TD9300 PHYSICAL INTERFACES

- ▶ Two RS232/RS485 serial interfaces for legacy equipment connection
- ▶ 10/100 Mbps Ethernet connection
- ▶ 2 digital input and 2 digital outputs to monitor and control surrounding environment, fully isolated

TD9300 SUPPORTS INDUSTRY STANDARD PROTOCOLS

- ▶ DNP3 over IP/serial
- ▶ IEC60870-5-101 and -104
- ▶ MODBUS Network Time Protocol (NTP)
- ▶ Internet Control Message Protocol (ICMP)

TAIT ENABLE SUITE

Tait EnableFleet

EASY CENTRALIZED RADIO CONFIGURATION MANAGEMENT

Tait EnableFleet is an integrated solution to manage your P25 or DMR radio fleet by providing a workflow tool to apply firmware updates, device configuration and device personalisation. For your organisation Tait EnableFleet provides operation efficiently, cost savings and, version surety while simplifying the management of a device's individual configurable items.

Tait EnableInsight

REAL-TIME NETWORK PERFORMANCE MANAGEMENT

Tait EnableInsight is a data driven solution offering customers real-time performance management and live reporting capabilities, with the objective of monitoring and improving Audit, Compliance, and Capacity of the network's performance for P25 and DMR trunking networks.

Tait EnableInsight analyses call activity on the customer network in near real-time and presents the users with information about current site loading, call queuing, and registration activity, as well as providing trend information over a range of timescales.

TAIT SERVICES

Oil & Gas organizations work around the clock so any time spent offline can quickly result in lost productivity or revenue.

It is therefore vital that critical communications networks are up and running at all times. To ensure coverage, capacity, and availability are maintained, ongoing monitoring, maintenance and management of these critical communications systems must be a top priority.

But this can be time-consuming and takes time away from other priority tasks. Tait delivers a portfolio of flexible services that help ensure connectivity and availability of your critical communications networks.

From professional services, consulting and design, implementation services for implementing and optimizing your systems, 24/7 support services for technical assistance and network monitoring, and training services for upskilling and empowering your teams, Tait services provide all the capabilities you need to be successful and ready for action whenever needed.

Tait Services allow your team to focus on their primary mission, feeling competent and confident they can always rely on their mission-critical network.

*Talk to us to find out
how our services can assist you:*
taitcommunications.com/services

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Tait works with a range of Technology Partners to provide a complete solution ecosystem based on open standards.

OPEN STANDARDS INTEROPERABILITY

Open standards such as P25, DMR, TCP/IP and LTE offer you freedom of choice and avoids the pitfalls of proprietary hardware and software. Tait has earned a reputation as a vendor with genuine support for standards-based solutions. We advocate industry standards and play an active part in designing, refining and implementing those standards.

EP PETROECUADOR

EP Petroecuador is the national Oil & Gas company of Ecuador, specializing in transport, refinement, storage, and sales of oil and gas. EP Petroecuador's operations cover the entire Ecuadorian territory and integrate teams from operations, security, and administration.

- ▶ DMR Tier 2 with 17 sites and 19 channels
- ▶ 500 Tait Intrinsically Safe Portable Radios
- ▶ GPS Location Services
- ▶ CISCO Unified Call Manager

“ Being able to rely on a nationwide talkgroup with excellent coverage plus the transparent integration between the DMR system and our IP Telephony are the greatest benefits that the Tait DMR tier II network has given EP Petroecuador.

– **Javier Cabrera V.**
Supervisor de Redes y Comunicaciones

BADAK LNG INDONESIA

Badak LNG is the largest liquefied natural gas (LNG) company in Indonesia and one of the largest LNG plants in the world. It is based in East Kalimantan on the island of Borneo. The operation includes eight LNG processing trains that scrub and liquefy gas for export worldwide.

Alssa Corp, an authorised Tait dealer based in Jakarta, deployed the DMR Tier 3 trunked mobile radio network at Badak LNG. The network includes TB9400 dual-channel base stations and more than 400 Intrinsically Safe (IS) portable radios. It helps keep well over 1000 employees connected throughout the operation, improving safety and productivity.



We operate an approach to technology where we always chase the best options to meet our requirements.

– **Arief Nurdin**
Badak LNG's Manager of Informational Technology

Tait has taken every care in compiling this brochure, but we're always innovating and therefore changes to our models, designs, technical specifications, visuals and other information included in this brochure could occur. For the most up-to-date information and for a copy of our terms and conditions please visit our website.

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Quality
Management
ISO 9001



Environment
Management
ISO 14001:2015



Occupational
Health & Safety
Management
ISO 45001:2018

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