TetraFlex® for Oil & Gas
– when 100% reliable communication is essential

DAMM Cellular Systems A/S is a world leader in reliable, rugged and easily scalable TETRA communication systems.
We have over 30 years' experience in providing professional radio communications for a vast range of mission-critical applications. Our many times tried-and-tested systems have proven themselves 100% reliable in the world's most demanding environments, making them ideal for the harsh conditions typical of Oil & Gas operations.

Securing supply

As the global demand for energy continues to grow, the Oil & Gas industry is at the forefront of keeping the wheels of business turning.
Ensuring the reliable, safe and environmentally secure supply of these precious resources places heavy demands on communication systems. Unplanned interruptions in production can rapidly lead to major financial losses in what has long been a 24/7 industry. The ability to quickly and accurately report potential damage or systems failures is a vital component in ensuring efficiency of production.

Protecting people and the environment

Reliable communications are crucial in ensuring the safety of those who work in the industry, or who live near production facilities. At the same time, rapid reporting of spills or leaks is essential in minimizing the industry's environmental impact. Fast response times can be decisive in preventing a minor incident from becoming a major disaster, while effective communication during an emergency evacuation can literally save lives.

The right tools for the job

Having a communications system you can totally rely on is decisive in maximising business efficiency, productivity and safety at all stages of the production and distribution process.

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DAMM's TetraFlex Solution for Oil & Gas

DAMM's TetraFlex Solution provides a reliable and fail-safe TETRA communications system, enabling private and secure voice and data communications across all Oil & Gas activities for increased efficiency and optimized safety.

TetraFlex features important for Oil & Gas operations

- 100% reliability: redundancy, fail-safe and back-ups
- Seamless scalability as demands grow
- Easy set-up and transition from existing systems
- Low power consumption allowing solar powering
- Own GIS map upload to dispatcher
- Remote management capabilities
- Designed for harsh environments
- Simultaneous voice and data communications
- High security and encryption level

TetraFlex communications for all areas of Oil & Gas operations
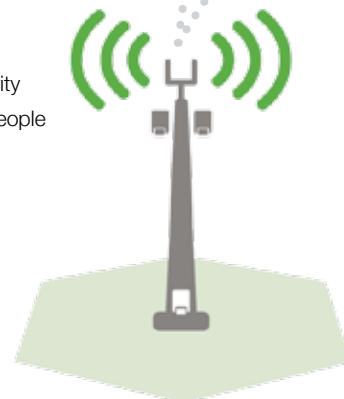
Upstream – Exploration & Production

- Enhance employee safety
- Cost reduction and operational efficiency
- Remote platform management

Midstream – Transport & Logistics

- Security of supply
- Environmental protection
- Remote pipeline monitoring and control
- Disaster recovery
- Tracking of people and vehicles

Downstream – Refining & Distribution

- Safety and disaster recovery
- Asset protection
- Operational maintenance
- Improved workforce productivity
- Managing data, assets and people

Meeting new challenges

Energy exploration is moving into new and ever more isolated regions of the globe, often far removed from infrastructure and security. In such settings, reliable communications are crucial in maximising productivity and efficiency, reducing costs, protecting supply and guarding against a wide range of threats to safety and security

Oil & Gas dispatch solution

Effective dispatching is a vital tool for achieving increased operational efficiency and employee productivity. Using the TetraFlex Dispatcher solution, all users can easily be dispatched:

- Production workers
- Maintenance staff
- Firefighters
- Logistics personnel
- Tank trucks
- …and many more, no matter whether they are off-shore, on-shore, at operational headquarters or remote pipelines

TetraFlex Dispatcher

Thanks to the built-in GPS positioning system, dispatch personnel can track and optimize movements of mobile equipment and personnel in real time. The TetraFlex Dispatcher can operate using either Google maps or via uploaded customized GIS-format site maps.

Voice and data collection for increased operational productivity

For many modern Oil & Gas enterprises, TetraFlex plays a vital role in providing operational data used in decision-making for improved processes, recommendations and forecasts, planning, costing and report preparation.

TetraFlex Voice and Data Logging and Replay

Our TetraFlex Voice and Data Management solution provides full voice and data logging facilities and replay across the entire network. This enables effortless incident reconstructions while also gathering valuable statistics on operational performance. TetraFlex comes with an easily accessible API that provides fast and efficient data transfer to third party systems.
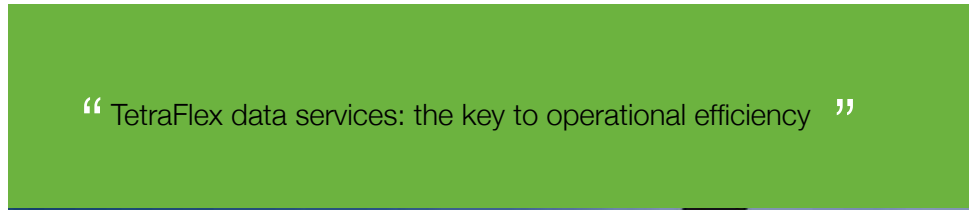
About TETRA

TETRA (terrestrial trunked radio) is a digital-trunked professional mobile radio standard and was developed by ETSI, the European Telecommunications Standards Institute. In recent years, TETRA has proved to be the ideal technology choice for Oil & Gas communications.

TETRA was initially developed to provide more spectrum-efficient digital voice and data technology for users of private mobile radio systems. This group extends from countrywide Government Radio Networks with hundreds of thousands of users, right down to small systems with as few as 15 users. TETRA technology is currently being used in more than 160 countries.

The core technologies used in the TETRA standard – such as Digital, Trunking and Time Division Multiple Access (TDMA) – provide a number of inherent advantages and benefits, including voice quality, RF coverage, data services and security.

Complete site coverage and up-time reliability

The 100% IP-based technology used by TetraFlex enables full scalability of both capacity and coverage. This makes it possible to create integrated communications across multiple sites, logistics facilities and centralized operational control centres, in any combination of off-shore, on-shore and even overseas operations. It also means that the system can support any capacity, from small sites with a few users to large sites with several thousand terminals.

To guarantee 100% uptime, the system can be delivered with full redundancy. Further security is provided by the TetraFlex intelligent distributed network architecture. This means that all system information is always replicated to all sites in the network, allowing call and data traffic to continue uninterrupted if one or more sites lose connection with the rest of the network. It further enables simple self-configuring site expansions and automatic re-establishment following a network interruption. At remote locations, the IP backbone for site communications is typically provided through fibre-optics, microwave or satellite networks.

Optimized installation for oil & gas operations

The TetraFlex IP65 encapsulated outdoor base station is well suited for outside installations in harsh environments under severe temperature and humidity conditions.

The compact design of the TetraFlex outdoor solution also makes it ideal for installation where space is limited. The unit's compact size also makes it ideal for portable deployment on trailers as location needs change. The system's low power consumption allows a completely independent solar-powered solution to be mounted on the trailers or in masts.
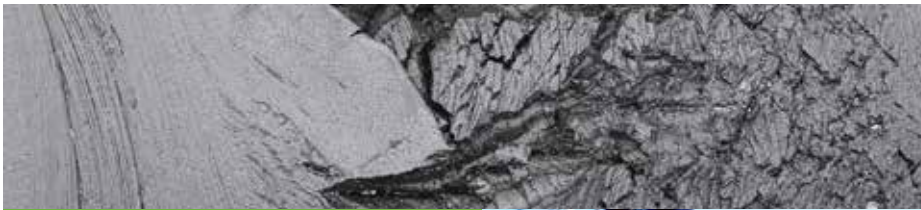
The system can be installed with any combination of outdoor base stations and high-capacity indoor base stations, wherever it is needed.
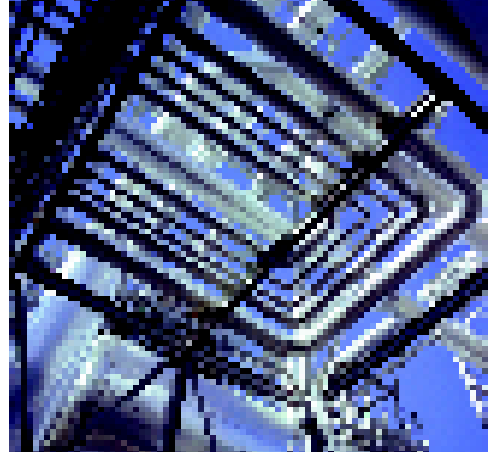
Remote network management and surveillance

By supporting remote connection, the TetraFlex Network Management system provides easy access to configuration and surveillance of the entire network and all subscribers. It comes with a Google map, where the alarm status of all site positions is monitored.

TetraFlex outdoor base station.

> **"** TetraFlex provides complete site coverage and easy scalability as needs change. **"**

Secure voice communications

Robust and reliable communication between operators and maintenance teams enables workers to keep in contact at all times – even at very large facilities – and is essential for the enhanced security and efficiency of oil and gas operations.

With our TetraFlex communications system, it is easy to define and coordinate user groups and work teams, even between off-shore facilities and centralized on-shore offices or headquarters.
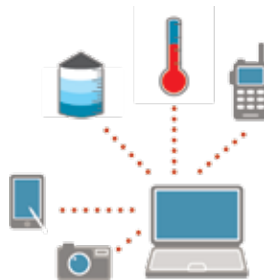

TetraFlex Voice Gateway

Our highly flexible systems support individual private calls, group calls, telephony communications (PSTN) and more; always with channel availability and crystal-clear voice quality, even in the noisiest areas. And most important of all, they ensure effective communications during emergency incidents, including controlling emergency evacuation, shutdown or man-down scenarios.

Efficient data communications

TetraFlex data services provide GPS data for efficient operational dispatching and coordination of vehicle and personnel locations, as well as instantly spotting and responding to man-down situations.

TetraFlex Packet Data Gateway

TetraFlex data services also enable SCADA and telemetry data to be used in support of a wide variety of secondary applications. These can include remote monitoring solutions for corrosion monitoring, or RTU installations along remote pipelines for pressure and flow measurements, valve controls, leakage detection, etc. Data and alarms can be sent either to operational dispatch centres or direct to maintenance staff via handheld TETRA terminal displays.

Existing data and telemetry systems can be seamlessly integrated via the easily accessible TetraFlex API.

Our customers

Some of the world's biggest names in Oil & Gas have already put their trust in our TetraFlex system and are enjoying the benefits of increased control, efficiency and cost-effectiveness:

Chevron

Shell

Exxon Chemical

DOW Chemical

BP

DSM NeoResins

GAIL Gas Authority of India

Lyondell Bayer Manufacturing

ATPC

Monumentum Chemical

Talisman Energy

Maersk Oil & Gas

Gassco

Heerema Marine Offshore

Stay in touch

At DAMM, you will find straightforward business processes and lean sales and support organisations that make it easy for you to do business with us anywhere in the world.

DAMM Cellular Systems A/S is a world leader in the provision of scalable, flexible, user-friendly and cost-effective TETRA infrastructure products to industrial, commercial and public safety customers. As a key player within professional radio communications for more than 30 years, DAMM holds a leadership position in developing TETRA technology through superior engineering and a constant focus on customer needs and reduced complexity.

The DAMM TetraFlex system is a highly cost-effective solution offering rapid deployment of TETRA infrastructure, easy access to responsive expert support and the full benefits of cutting-edge technology. DAMM solutions are available worldwide through an exclusive network of partners.

For more information, please visit www.damm.dk

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