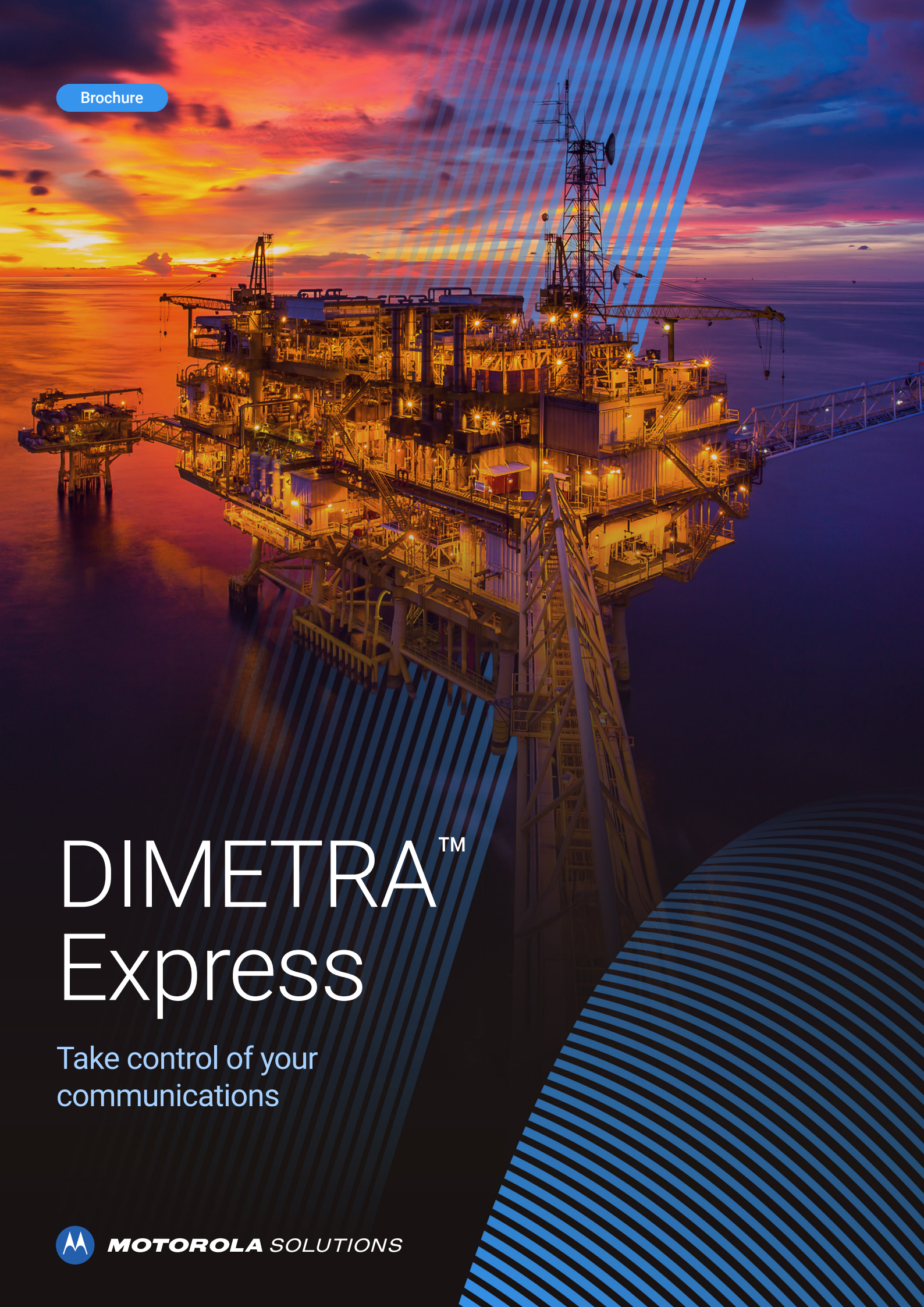

Brochure

DIMETRA™ Express

Take control of your communications

MOTOROLA SOLUTIONS



TETRA is a proven Land Mobile Radio (LMR) technology, used for critical voice and data communications. It is relied on by public safety agencies, public transport, energy, and other businesses and organisations all over the world.

Having a solution that's designed for your organisation's communications needs is critical for success.

Take control of your communications with DIMETRA Express

DIMETRA™ Express is a flexible TETRA digital voice and data communications solution.

DIMETRA Express is a complete solution for secure and reliable business and operations critical communications. It is based on proven mission-critical DIMETRA systems, the TETRA open standard for digital trunked radio technology, and the three pillars of mission-critical communications: reliability, security and capacity.

DIMETRA Express is quick and easy to install, set up, deploy and manage. It is integrated into an IT network with just a single IP address, and the installation is completed in minutes through the browser-based installer. Multiple radio subscribers can be provisioned using a simple bulk upload. Once installed and set up, DIMETRA Express is also easy to manage and operate through browser-based network management and dispatch applications.

DIMETRA Express simplifies communications so that everyday operations in your organisation can be performed more efficiently, with increased control and reduced complexity. Its rich set of digital voice and data features enables people to communicate without delay to enhance safety and make faster and better decisions.

DIMETRA Express has the flexibility to meet your organisation's business needs today and can expand in capability, coverage and capacity to continue to meet your business needs as they evolve. It's easy to add extra base radios for more capacity or additional sites to expand coverage.

DIMETRA Express can also interoperate with mobile broadband networks through the WAVE PTX™ broadband solution, enabling users to communicate and collaborate with people outside of TETRA coverage.

DIMETRA Express is a system that's been developed, built and supplied by a world leader in critical communications technology with a track record of more than thirty years providing robust, reliable and secure TETRA radio communication solutions.

Whether considering two-way radio communications for the first time, migrating from an analogue radio system to digital or refreshing an existing TETRA system, with DIMETRA Express your organisation will be taking advantage of a modern, flexible TETRA system.

Private Digital Communications
Voice and data communications, tailored to your organisation's needs

Easy installation
Set up in minutes

Simple system management
Manage, monitor and configure from anywhere

An expandable solution
Invest in a system that grows with your organisation's needs

Operate in confidence
Robust and resilient communications your organisation can rely on





Private digital communications

Digital voice and data communications for your organisation's needs

Organisations today require voice and data communications to get the job done.

DIMETRA Express meets that need, providing open standard TETRA capability with loud and clear digital voice communications for safe day-to-day operations. It also offers short data and packet data services to enhance operational scope and efficiency.



Your tailored private network

A TETRA network is designed and built to meet specific coverage, capacity, capability, control and cost requirements.

Your DIMETRA Express network is your private TETRA network, so the coverage, capacity and capabilities of the network are all under your organisation's control. Your organisation controls who has access to the network, and who has priority. Costs can be managed predictably for the life of the network, as your organisation owns the network.

Built to your requirements, your DIMETRA Express network will provide the coverage and capacity your organisation needs to guarantee push-to-talk communications - so everyone stays connected, even during peak periods of activity. You can tailor the solution with extra capabilities[1], by adding licensed features or third party applications.

[1] For a list of available licensed features, please refer to the DIMETRA Software Features Catalogue: **www.motorolasolutions.com/dimetrasoftwarefeatures**

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Easy installation



Set up in minutes

DIMETRA Express is fast and easy to install.

For organisations looking to deploy a completely new system, migrate from a previous DIMETRA system, or set up a temporary or rental system, the solution is designed to get teams up and running quickly and efficiently.

DIMETRA Express integrates the switch and base radios into your existing IT network, using a single IP address and a simple browser-based installer. It can also provision multiple subscribers with a simple bulk upload. The browser-based installer, with step-by-step guide, leads your Radio Communications Manager through the process that can take less than fifteen minutes.

A temporary solution

The ease of resetting and reconfiguring the system makes DIMETRA Express an effective solution for emergency or temporary deployments.

Sometimes a temporary solution is required to enable radio communications in a specific area for a short period of time. For example, at large sporting events or music festivals, lots of radio users need to be able to communicate to keep people safe and operations running smoothly. Even with thousands of radios required on the system, DIMETRA Express can be quickly set up and configured to provide the critical communications capability needed. When the event is over, the DIMETRA Express system can be taken down quickly, moved to another location and reconfigured for the next event.

In an emergency situation, such as a natural disaster that causes a network failure in a local area, a DIMETRA Express system can be deployed to temporarily plug the communications gap. It can be quickly configured with the same frequencies and fleetmaps as the affected network, so that radio users can continue to communicate.

Migrate easily from your existing DIMETRA system

To meet your organisation's critical communications requirements for the next ten years or more, you should upgrade your TETRA network. If your organisation is already using a DIMETRA IP Compact or DIMETRA IP Micro system, it is cost effective and easy to migrate to DIMETRA Express.

Simply replace your existing DIMETRA core with the standalone DIMETRA Express server. This migration preserves the investment in your existing Radio Access Network (RAN) and enables you to take advantage of new features and capabilities from DIMETRA Express. There is no need for manual intervention at each base station, as the DIMETRA Express server pushes out the software updates to each location on the RAN. This is done for the initial upgrade to DIMETRA Express, and all future software upgrades that are made to the system.



Flexible configuration

DIMETRA Express is a versatile solution that can be deployed in a variety of configurations, to meet different business needs.

A DIMETRA Express system includes the Express Server and at least one MTS base radio. The MTS range includes the MTS1 single base radio, the MTS LiTE single base radio, the MTS2 with up to two base radios, and the MTS4 that can contain up to four base radios.

For smaller networks and quick and easy set up, you can deploy a one-box solution with the DIMETRA Express Server integrated into an MTS2 or MTS4 base station in place of one of the base radios.

Alternatively, your organisation can deploy a standalone DIMETRA Express server connected to a number of MTS base stations. This configuration is also ideal for upgrades from older DIMETRA IP Compact or DIMETRA IP Micro systems where the core is simply replaced by the standalone DIMETRA Express server and used with the existing RAN.

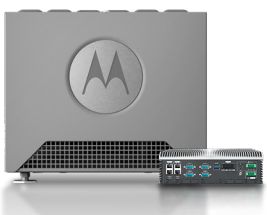
Regardless of whether your organisation chooses the standalone or integrated DIMETRA Express server, it's also easy to add additional sites and base radios to your DIMETRA Express system, enabling your organisation to expand and build out your network as your needs evolve.



DIMETRA Express **MTS4** TETRA system



DIMETRA Express **MTS2** TETRA system



DIMETRA Express **MTS LiTE** TETRA system



DIMETRA Express **MTS1** TETRA system



DIMETRA Express **standalone** server



Simple system management

Manage, monitor and configure from anywhere

DIMETRA Express is easy to manage and operate through browser-based network management and dispatch applications. All that's required is a PC or tablet running Windows® or Android™ and a Google Chrome™ browser.

With a browser-based applications approach, DIMETRA Express makes monitoring and managing the network fast, easy and cost effective. Separate network management consoles in specific locations are not required - the manager of the system can see what's happening on the network from anywhere.

Browser-based system health monitor

The browser-based System Health Monitor application tracks the health of your system to ensure everything is working as it should be.

The System Health Monitor application monitors the status of all servers, base stations and services and enables the manager of the system to identify any faults and determine the course of action needed to rectify the problem. For example, if a site isn't working due to a power cut to the base station, the System Health Monitor shows the location and state of the fault so immediate action can be taken.

If more detailed reporting is required, the fault forwarding API enables the manager of the system to use third party solutions for extended fault management.



Browser-based dispatch application

Instead of having to use a separate dispatch console located in a specific location or a desk-based mobile radio, dispatchers only need a Chrome browser and the browser-based dispatch application to easily communicate with those in the field and assign tasks. The dispatch application also allows dispatchers to send short or pre-defined text messages to those in the field.

The Dispatch Communication Server (DCS) API provides a connection to a dedicated dispatch solution if additional functionality is required.

Browser-based radio control manager application

With the browser-based Radio Control Manager application, seeing what's happening in the radio fleet and quickly taking action is easy.

The manager of the system can, via a Chrome browser, check system events such as emergency alarms, monitor device status, temporarily disable ("stun") a radio or take it off the system completely. The manager can also add or remove talkgroups using Dynamic Regrouping commands, create or schedule reports, and revive stunned radios.

Easy to manage

DIMETRA Express has been designed to be easy to set up and manage. It's an efficient and effective communications solution, combining advanced features and functionality with simple installation and low total cost of ownership.

Keeping your DIMETRA Express network up to date with the latest software release is important to keep your system secure and give your organisation access to the latest features and functionality. Upgrading the software and patching the operating system is easy, with software downloaded and installed in a few simple steps. Once your DIMETRA Express server has been upgraded, it automatically updates any redundant servers and all the base radios in the system, meaning there is no need to visit individual base station sites to update them.





An expandable solution

Invest in a system that grows with your needs

Business changes rapidly, and what meets your needs today may not meet your needs tomorrow.

That's why it's crucial that your organisation chooses a communications solution that can evolve. DIMETRA Express is a system that allows organisations to start small and expand with extra capacity and capability as and when needed.

With DIMETRA Express, it's easy to add base radios for additional channels and capacity, or additional sites to increase coverage. Extra subscriber radios can also be added to your fleet at any time.

Frequent software releases provide new functionality, and the Radio Communications Manager can add a range of licensed features[2], such as Common Secondary Control Channel or Object Call to your network when required.

To expand your capabilities, your organisation can also add in solutions that include TRACES (Terrestrial RF Automated Coverage and Evaluation Solution) for coverage analysis, WAVE PTX™ to enable communication with users outside of TETRA coverage, and Application Programming Interfaces (APIs)[3] to integrate with other solutions.

[2] For a list of available licensed features, please refer to the DIMETRA Software Features Catalogue: www.motorolasolutions.com/dimetrasoftwarefeatures

[3] Please see the DIMETRA Express specifications sheet for a full list of supported APIs: www.motorolasolutions.com/dimetraexpress

Manage special tasks with Object Call

With many people working on complex tasks, it's important to keep everyone connected and communicating. Object Call is a feature of DIMETRA Express that enables radio users to join and participate in a talkgroup that's specifically focused on a special task, without having the talkgroup programmed into their radios. This provides individual radio users with the freedom and flexibility to dial into an "Object Talkgroup" for the duration of the task or just join to deliver a single instruction.

An example of a task where Object Call can help is the 'turning around' of an aeroplane at an airport - where teams and individuals need to be able to collaborate efficiently with their colleagues from other teams such as the refuelling team, cleaners, catering suppliers and others as needed to ensure everything is done smoothly and efficiently so that the plane can take off again in the shortest time possible.



Communicate across devices and networks

DIMETRA Express also enables communication and collaboration with users outside of your TETRA network coverage.

It supports off-network Voice over IP (VoIP) telephone calls to other locations or organisations, for example the head office or the emergency services. The DIMETRA Express system can also interoperate with WAVE PTX™, a broadband solution that provides seamless PTT communications with users across different devices, broadband networks, and locations.

Monitor your network in real time with TRACES

Motorola Solutions' Terrestrial RF Automated Coverage Evaluation Solution (TRACES)[4] provides 24x7, real-time ability to monitor, evaluate and optimise your network performance and provides real-time access to network coverage data. By collecting data generated in the field, TRACES enables the Radio Communications Manager to monitor and evaluate network performance - providing both a high level view and the capability to drill down into detailed analysis enabling the quicker resolution of coverage issues.

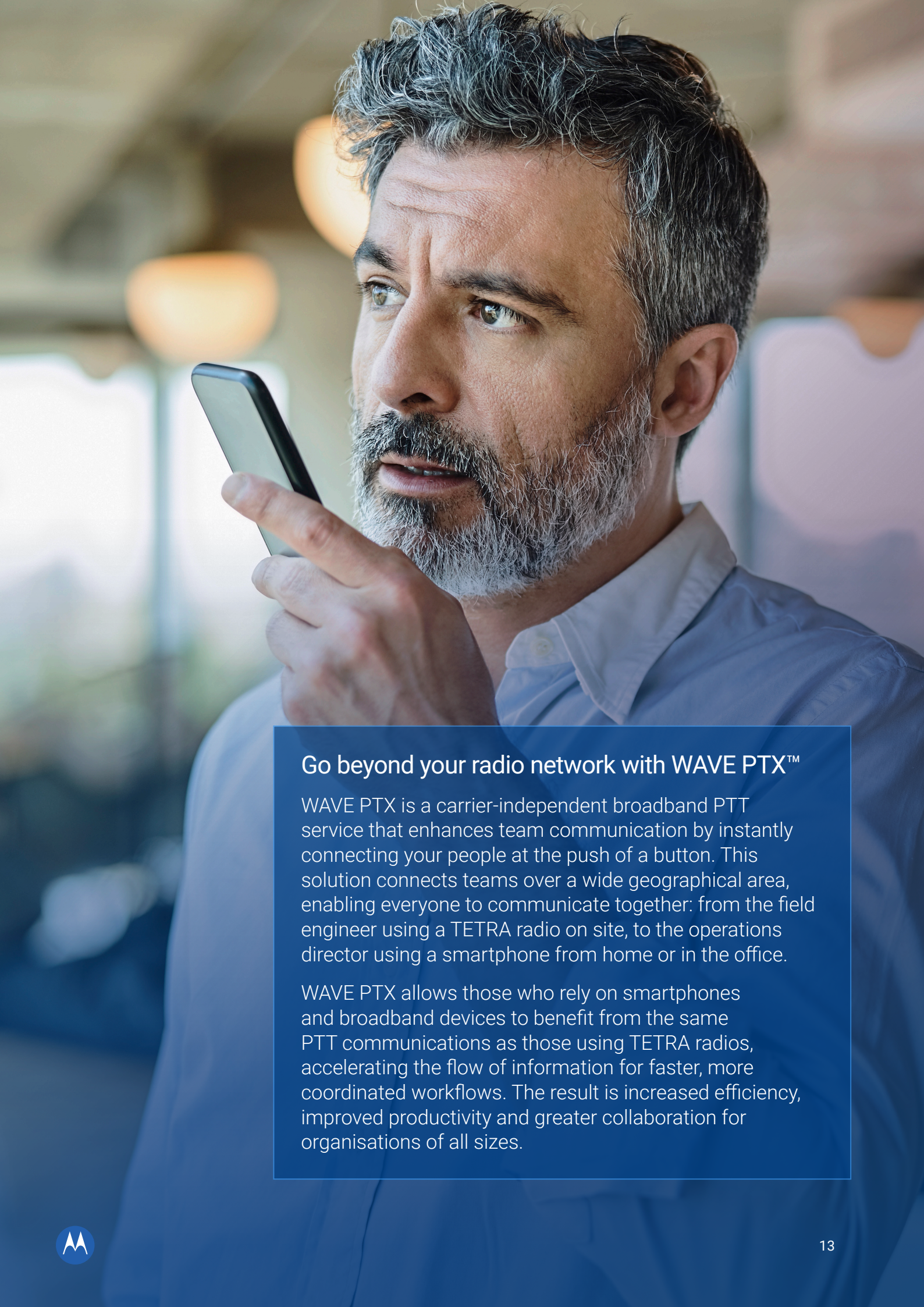
Create your own unique solution with APIs

DIMETRA Express supports Application Programming Interfaces[5] (APIs), the software link that allows two applications to communicate. With APIs, organisations can create their own solutions using third party applications. For example, the Voice Logging API allows use of a third party solution to record and store calls for reference or training, while the Dispatch Communication Server (DCS) API gives users the ability to connect to third party dispatch consoles.



[4] For further information about TRACES, please visit: www.motorolasolutions.com/TRACES

[5] Please see the DIMETRA Express specifications sheet for a full list of supported APIs: www.motorolasolutions.com/dimetraexpress



Go beyond your radio network with WAVE PTX™

WAVE PTX is a carrier-independent broadband PTT service that enhances team communication by instantly connecting your people at the push of a button. This solution connects teams over a wide geographical area, enabling everyone to communicate together: from the field engineer using a TETRA radio on site, to the operations director using a smartphone from home or in the office.

WAVE PTX allows those who rely on smartphones and broadband devices to benefit from the same PTT communications as those using TETRA radios, accelerating the flow of information for faster, more coordinated workflows. The result is increased efficiency, improved productivity and greater collaboration for organisations of all sizes.



Operate in confidence

Robust and reilient communications for your organisation

When it comes to communications for your organisation, reliability is vital.

People need communications they can depend on every minute of every day, so they can collaborate efficiently and work productively without delay.

DIMETRA Express is based on the three pillars of mission-critical communications and the proven TETRA technology relied on by public safety agencies around the world.



Keep your system operating at peak performance with service and support package

To support your investment and keep everyone connected, there are a variety of service packages[6] that transfer to Motorola Solutions the risk and responsibility of providing the right level of services for your communications needs.

The service packages aim to proactively maintain your DIMETRA Express system so that it continues to operate at optimum levels for long term efficiency. Should incidents occur with your DIMETRA Express system, Motorola Solutions supports your organisation to minimise disruption and restore communications.

[6] For further information about DIMETRA Express Service Packages, please visit: www.motorolasolutions.com/dimetraexpress

Built on the three pillars of mission-critical communications

Reliability

Many Public Safety organisations use DIMETRA TETRA technology for their critical communications. DIMETRA Express has been designed and built with the same inherent hardware and software reliability to provide robust and resilient communications around the clock.

DIMETRA Express has layers of redundancy and fallback including local redundancy or geographic redundancy of the core server, redundant links, local site trunking, redundant base radios, as well as Direct Mode Operation (DMO) of the TETRA radios. This layered redundancy capability with near instantaneous service recovery of the core and base radios helps ensure that communications are maintained. This is especially important in remote environments where engineering support may not be immediately available.

Security

Based on public safety radio communications technology, DIMETRA Express is a secure network that protects against unauthorised users, snoopers and hackers. Security and integrity are maintained with a layered defence architecture that includes authentication to ensure only legitimate users are on the system, as well as Air Interface Encryption (AIE), that encrypts over-the-air communications and signalling between the radios and base stations.

To further protect the DIMETRA Express system, cyber security features include a firewall between your IT network and your DIMETRA Express system, Operating System (OS) hardening, regular software updates that include OS security patches and bug fixes, and the latest antivirus protection.

Capacity

Being a dedicated network, your DIMETRA Express network can be configured to your organisation's needs, and extra base radios can be added to provide extra capacity in user dense areas. With the simple management tools, the manager of the system can monitor available capacity at different sites, so that extra base radios can be added as demand increases.

In addition to the redundant base radio acting as a backup base radio at a site, it can also provide extra capacity when needed to help cope with unexpected peaks in demand.

Trust a world leader in TETRA

Motorola Solutions has been developing and delivering robust, reliable TETRA radio communication solutions for over thirty years, with more than 1000 DIMETRA TETRA systems deployed across more than 100 countries.

Motorola Solutions can provide your organisation with a complete end-to-end communications solution that includes: network infrastructure, end-user devices, and support services to keep your TETRA network up and running for the next 10-15 years or more.

Working with Motorola Solutions provides your organisation with reliable and secure communications capabilities to focus on what's really important – running at full potential.





For more information, please visit:
www.motorolasolutions.com/dimetraexpress

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