Land Forces
Situational Awareness

Tactical EW to listen, understand and determine enemy intent to safeguard against current and emerging threats in the most challenging environments.
In today’s complex security environment the organisation with the greatest understanding of the threat from a potential enemy controls the response required to safeguard life, prevent attacks on critical assets or infrastructure and provide the measured response required to defeat emerging threats as they arise.

The advent of the 21st Century introduced us to a number of new and emerging threats to Homeland Security, Border Security, International Terrorism and Organised Crime. These new threats have required our security forces both military and civil to become more agile and inventive to the methods of collecting intelligence in a complex digitally enhanced environment.

The ability to provide the right level of Intelligence, Surveillance and Reconnaissance (ISR) assets to enhance the Situational Awareness of the Commanders and responders is vital to the understanding and interdiction of these threats. Tactical Electronic Warfare (EW) is a key component in the ability to FIND, FIX and EXPLOIT intelligence in the digital battlespace.

EW systems such as Electronic Surveillance (ES) provide the ability to passively Detect, Track, Record and Indentify Communications (Voice and Data) in the Electromagnetic Spectrum (EMS). Active EW capabilities such as Electronic Attack (EA) have an ability to deny or shape the use of the adversary’s communications and to enhance Force Protection.

In today’s cluttered communication environment, the ability to provide timely, near real-time information of an adversary’s location and intent, through the use of a capable ISR network, is vital to aid the Commanders’ understanding and decision making.

Staying one step ahead of the adversary
L3 TRL has a wealth of knowledge and expertise in the design, manufacture and support of Electronic Surveillance, Satellite Monitoring, Electronic Counter Measures (ECM) / Electronic Attack (EA) and secure network communications. L3 TRL is able to meet the demanding requirements of modern day EMS management enabling defence, government and law enforcement agencies to stay one step ahead of the enemy.

Our multi-role, multi-platform, Integrated Electronic Warfare (IEW) solution provides up to the minute actionable intelligence for Land and Joint Operations. Modular and scalable in design, IEW supports the location, exploitation and disruption of enemy communications whilst enhancing Force Protection.

The ability to deploy IEW on a range of different platforms – from man-portable to vehicle-borne (quad bike, soft skinned or armoured vehicles) to manned and unmanned aerial platforms, as well as offshore patrol craft and specialist marine amphibious craft – provides an unparalleled flexibility to deploy our solution in any potential environment and situation.
Understanding the Land environment

Influencing or potentially controlling the contested and congested Spectrum is critical to all defence and security missions. IEW assets provide the Indicators and Warnings (I&W) and an understanding of the EMS to Commanders at all levels.

Many trends are shaping the requirements of EW and its capabilities for future operations, from the growth in traditional threats from nation states, regional asymmetric conflicts and an increase in network centric attack, to the increasing technological parity of emerging nations, unmanned operations, commercial off-the-shelf technologies and spectrum congestion.

Increasingly, EW is becoming important beyond the sphere of standard combat operations to include the full range of internal security threats from espionage, insurgency, terrorism and cyber-attack.
Situational Awareness

Significant improvements in EW technology in recent years have enabled highly versatile EW systems to reduce their Size, Weight and Power requirements (SWaP), enabling them to be utilised by smaller, lighter and faster platforms. The reduction in initial and whole life costs, as well as greatly reduced training requirements, have allowed EW assets to be deployed and managed at the tactical level. The increased networking of Tactical EW assets (sensors and effectors) can be used to understand and exploit the EMS to counter threats from a variety of sources.

This joint or combined networked EW capability provides a near-real-time EW element to Military and Civilian Security Forces Situational Awareness. When using L3 TRL’s IEW capability the Commander is able to manage, task and deploy their sensors and effectors to greatest effect.

Determining an Adversary’s intent

In an increasingly complex and congested digital battlespace the need to understand, isolate and exploit information on an adversary is increasingly important. To neutralise the threat prior to execution requires responsive and versatile solutions that are adaptive to evolving situations and intelligence needs.

Tactical EW assets give the operational commander the ability to intercept, identify and locate potential targets by enabling the commander to exploit the EMS to determine an adversary’s intent. This combined with other collection assets provides the battlespace picture required to ultimately win the information battle.

Homeland and Border Security

The defence and security of the population is the main priority facing most democratic governments today. The asymmetric threat from internal and international terrorism as well as the threat to the integrity of National Borders by Criminal Organisations involved in the smuggling of narcotics, weapons/explosives and the trafficking of humans requires national security forces to remain one step ahead of their adversary at all times. The provision of timely and accurate intelligence is a major tool in countering this threat and the ability to lawfully intercept an adversary’s voice and data communications means whether by radio, GSM cell phone or satellite phone is key. An integrated EW system provides the ability to intercept and analyse this raw data, turning it into actionable intelligence at a speed and accuracy unavailable until now.

Critical National Infrastructure

The security of a nation’s vital infrastructure and ensuring the unfettered ability of major economies to carry out their legitimate activities is the other priority facing most democratic governments. The ability to move freely by road, rail and air without major disruption, the supply of oil, gas and electricity to power factories and homes and the protection of those vital industries such as banking, manufacturing, communications and power generation are key to all governments. The protection of this Critical National Infrastructure from potential terrorist or insurgent forces relies on understanding the threat through the provision of timely and accurate intelligence. Oil and gas platforms are particularly vulnerable and are a critical parts of a nation’s infrastructure and economy. The protection of these platforms relies mainly on early warning of an approaching threat to enable/interdiction by naval/marine or security forces. EW can play a vital part of this early warning system, as well as providing a further layer of protection for the platform and crew.

Counter Terrorism and Organised Crime

The increase in domestic and international terrorism over the last 10 years has required security forces, both military and civil, to review their training tactics and procedures and the type of platforms they require to counter this threat. Communications intercept has largely been from ground based assets in the past, but the increased agility of terrorists and the asymmetric nature of this threat has required newer solutions to be deployed. EW assets can now be used from a variety of platforms such as inshore patrol craft to cover the littoral zone, aerial platforms both manned and unmanned, as well as tethered aerial solutions such as balloons or kites. This provides a level of reach and range for tactical systems which was only previously available in larger strategic systems and can be used by both military and government security forces to provide vital early warning of an emerging threat. Good, timely and accurate intelligence is vital to interdicting these threats early and EW has the speed and ability to Find and Fix and potentially Exploit these potential threats at an early juncture.

From UOR to Core

Significant numbers of vehicles extensively upgraded through UOR processes are being brought into core and form part of the backbone of many armies. The requirement will be to have a capability that is more flexible and adaptable to undertake a broader range of military tasks at home and overseas.
Networked Electronic Warfare

A higher level of intelligence

EW is the military capability that must be integrated into Land, Air and Maritime operations, supporting all phases and aspects of a campaign. L3 TRL’s IEW capability offers a modular, scalable and interoperable solution fully adaptable to emerging threats and challenging scenarios.

IEW integrates EW and ISR sensors from multiple platforms, fusing data and information to ensure the tactical Commander and users have a current and complete understanding of their operating environment. Rapidly deployable on a variety of platforms, it provides the tactical commander with a Common Operational Picture (COP) which supports the dynamic tasking, management and control of its assigned assets in order to exploit the EMS for tactical advantage.
Electronic Surveillance

In today’s information battlefield and with an increasingly congested radio spectrum, the need for reliable intelligence is vital.

Add to that the need for a highly mobile and flexible capability and providing timely intelligence to Commanders at all levels becomes a demanding challenge.

As the digital era expands, the need to collect, analyse and exploit intelligence is increasing at all levels. With technologies evolving quickly, they must be matched by responsive and versatile solutions that are adaptive to the changing targets and intelligence requirements.

Satellite Intercept

The proliferation in organised crime, and its interaction with global terrorism, presents challenges for naval, marine, police and security forces. Monitoring, tracking and taking measures to stop the actions of these groups costs both time and money. So ensuring that actions are carried out effectively and efficiently is crucial.

The relative ease of communication between individuals and groups, due to the extensive coverage and availability of Thuraya and Inmarsat satellite networks, means that they are favoured by criminal and subversive groups located in remote or even urban regions.

The ability to intercept and monitor conversations and data transmitted over satellite networks, provides the vital Intelligence which enables detailed and comprehensive analysis and reporting of target activities. This gives the operational commander the ability to search for, intercept, identify and locate potential targets through EW assets, to ultimately win the information battle.

Electronic Attack / Electronic Counter Measures

Targeting and inhibiting specific frequency usage through the use of EA or potentially Offensive Cyber is an integral part of any EA plan. From conducting tasks in support of information operations, through to the denial of specific frequencies at critical moments of activity, means that communication links between adversaries can be inhibited and an impact on Command and Control (C2) can be achieved. This limits the decision making of adversarial leaders, whilst retaining the use of vital friendly communications.

The deliberate emission of RF energy in a predetermined manner can deceive or mislead adversaries from single or multiple locations. In addition, the transmission and retransmission of recorded signals in a reactive or predetermined manner can cause confusion within hierarchical radio networks further affecting adversary actions.

Lastly, the ability to emulate multiple types of signals can be used to train friendly forces on the types of threat to our own communications when they come under EA.

Secure Network Communications

Today’s global threats of terrorism and piracy demand assured secure communication systems to enable the passage of vital information between units.

The use of public, private and satellite networks provides Commanders with the ability to communicate securely at both classified and unclassified levels, via any IP network in the world, to enhance strategic and tactical operations in mobile, remote and challenging environments.

Being able to protect these networks against suspicious or malicious activity and unauthorised connections is vital to ensure highly sensitive messages are not intercepted or impeded in the all-important information battle.
Committed to Security

L3 TRL is a UK based manufacturer which has developed and manufactured award-winning advanced electronic systems for the past 30 years. All of our systems and products are now ITAR free and available to users across the globe. Our team have a thorough understanding of the challenges and dangers in the sphere of Electronic Surveillance Warfare.

Since 1983 we have designed, developed and integrated a wide range of innovative defence and security solutions. Government, defence and law enforcement agencies around the world now rely on us extensively in their battle against terrorism and insurgency.

We’re part of the leading US defence supplier group L3, which provides us with the resources to anticipate and support our customers’ evolving needs. We are able to stay one step ahead of the threat in an ever-evolving and dynamic environment.

Our flexibility comes largely from the fact that we have retained the ethos of a smaller company, where relationship building is paramount. The long-term customer partnerships we develop pay huge dividends in terms of trust, responsiveness and our understanding of key issues.

We understand the importance of tailoring individual solutions that are scalable and flexible to meet the specific needs and requirements of each customer.

Our open culture is reflected in our awareness of corporate responsibility in all its aspects, from financial compliance and business ethics to environmental affairs and product integrity.
Our approach

Our pedigree in delivering successful projects with the highest levels of security has secured long-standing partnerships with government and defence agencies across the world. Whether the requirement is for the management of a short-term project or major programme, our in-house Project Management Team is committed to ensuring the requirements of customers are met in full, every step of the way.

To engineer the best solution every time, each project is assigned a dedicated team, integrating specialists from across the business to accurately identify requirements, allocate resources effectively and deliver the solution. We can provide progressive assurance throughout the project, utilising Systems Engineering principles to minimise risk, ensure full accountability and provide clear visibility at each stage.

Research and development

L3 TRL is a company with its roots firmly in successful research and development projects. Our products are innovative, cutting-edge and at the very forefront of EW development.

We provide in-house development across all related disciplines, from Systems Engineering to Digital Signal Processing and Radio Frequency Engineering to Software Development. This technical capability is combined with a threat analysis cell that affords deep understanding of threats as they emerge.

Training and consultancy

We have designed a variety of training courses to provide customers with essential skills and technical knowledge, enabling them to fully utilise the functionality of our equipment in a variety of scenarios and stay one step ahead of the enemy and ultimately save lives.

Although our training addresses the need for personnel to understand, program and deploy our systems, there is no substitute for experience. We offer a consultative range of operational and engineering knowledge that is unrivalled in the EW marketplace.

We also offer information and advice on how to maximise each EW solution, including aspects such as field testing, platform integration, threat specific missions and the collation and interpretation of data.

Through-life support

To ensure customers gain the most from our world leading products, we provide through-life support from the first point of contact, guaranteeing the customer’s solution will run smoothly throughout its requirement.

From the outset we are able to offer advice on customer requirements, how best these can be met, and how the optimal solution can be implemented. Above all else we consider customer affordability. The most suitable solution to meet individual needs and operational requirements will be offered with a view to achieving lower total cost of ownership for the customer.

Extending the Integrated EW Capability

L3 TRL works in conjunction with some of industry’s most innovative companies to offer solutions designed to specifically support and extend the capability of the IEW subsystem.

From integrated sensors to C2 systems, these products provide a seamless extension to the reach of the IEW system, enabling a fully integrated combined capability which provides access and complete tactical understanding of the environment.

IEW has the ability to integrate with a wide range of sensors including, but not limited to Electro Optical/Infra Red, Radar Electronic Support Measures, Cellular Telephone Intercept and ELINT to meet specific customer needs.

L3 TRL’s Integrated EW capability is at the heart of our EW portfolio. We are able to integrate SMARTSCAN and BROADSHIELD systems plus other third party sensors and software. This provides a truly scalable and modular tactical EW system.
Engineering a safer world

SMARTSCAN
L3 TRL has extensive capability in the design, development and support of spectrum surveillance solutions for government, defence and intelligence agencies. The SMARTSCAN portfolio provides a highly versatile and rapidly deployable range of modular systems that meet the modern day tactical EW requirements.

The SMARTSCAN range provides invaluable, up-to-the-minute actionable intelligence, offering a comprehensive multi-role portfolio of search, intercept and Direction Finding (DF) capability designed to perform in the harshest of environments.

BROADSHIELD
L3 TRL's BROADSHIELD family encompasses our award-winning and operationally proven ECM and EA capabilities, providing flexible and targeted jamming of the EMS for Force Protection, offensive EW operations and operator training.

Using a software-defined architecture, BROADSHIELD products enable complex waveforms to be created and transmitted with operators able to exploit the very latest field-based intelligence. This agile approach allows for mission-specific deployment in the Counter-Radio Controlled Improvised Explosive Device (C-RCIED) role, or communications denial, deception and EA roles.

CATAPAN
L3 TRL's CATAPAN Government Grade encryption solutions protect and secure the most sensitive and critical data whilst enabling secure communications over public and private networks, be they strategic or enterprise, down to the highly tactical and mobile.

Deploying CATAPAN solutions provides a completely secure communications network which can be utilised for voice, video and data transmission over any communications bearer.
Your partner of choice

We are committed to providing versatile solutions that can evolve as requirements change and technologies advance. We have a long history of working directly with customers to design, develop and deliver tailored solutions that counter specific threats and address the need to provide a fully integrated solution.

We heavily invest in the latest research and in our people. Our knowledge and experience in the field of EW has evolved over 30 years of in-theatre experience, from the strategic to the tactical level. It’s this level of expertise that has allowed us to understand and create tailored solutions, whether in-house or through working closely with our partners, to keep you one step ahead of the adversary.

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L3 TRL reserves the right to amend specifications in the light of continuing development.

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