# 'Geointelligence is key in precision warfare'

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**Rolta is the leader in providing geospatial solutions for defence establishments in the country addressing the complete requirements in the sensor-to-shooter chain. Can you elaborate on the kind of products and solutions offered by Rolta?**

Militaries across the globe have realised that it is not the number of forces that ensures victory, but the side which harnesses technology as enabling force multiplier. India is also looking to rapidly modernise its armed forces to derive maximum benefit from state-of-the-art, cutting edge military technology and has increased its budget for defence and homeland security segments significantly.

Rolta is indeed a leader in providing geospatial solutions and has been working with the Indian defence forces for more than two decades now and commands over 95% of their geospatial segment. Rolta is uniquely positioned to offer solutions covering the entire range of command, control, communications, surveillance, target acquisition and reconnaissance (C4ISTAR) systems to meet the most stringent requirements of defence forces. The tremendous insights gained from close proximity support in conflict zones under extremely demanding conditions have led Rolta to evolve its offerings into a range of C4ISTAR solutions to address the entire spectrum of challenges faced by defence and security agencies.

Rolta C4ISTAR range of solutions include battlefield management systems for field units and higher echelons, multi-sensor data fusion systems to fuse inputs from various ground and air based sensors and present a coherent intelligence picture (CIP) to the decision makers, Miltrak & Soldier Radio systems to provide situational awareness capability in the battlefield down to the soldiers organised in companies, platoons and sections.

Rolta is rich in intellectual property (IP). This is an important differentiation. Indian defence is populated with our IP. We serve the needs of our customer without worrying about the cost factor. The Indian government, defence and homeland security agencies feel comfortable dealing with a company which is Indian and which has ownership of technology with them.

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## Modern war has three distinct levels — strategy, operational art and tactics. Can spatial intelligence play a prominent role in each of these levels and how?

Whether it is war or peace, geospatial information is essential for an intelligent and updated situational awareness at all levels. Any strategic decision related to movement of assets is assisted by geospatial information. Commanders can build scenarios for location of assets, such that they are easy accessible and resources can be speedily mobilised in case of outbreak of war or situations like natural or man-made calamities, acts of terrorism or insurgency.

Military commanders of all modern armies working in 'digital' battlefield environment utilise geospatial information of 'intelligent' maps and geospatial data as the foundation, on which they operate the C4ISTAR solutions to make effective command and control decisions, be it in strategic, operational or tactical context. At tactical level, soldiers upwards to their commanders at section, platoon, company and battalion level, are inter-connected and together see the common operations picture (COP) on a near real-time basis based on the geospatial backbone.

Such multiple tactical battlefield management systems at battalion level are further connected at the operational level to the higher level battlefield management system being operated by headquarters at brigade, division and corps. At strategic level of corps, command and army headquarters use geospatial intelligence system in a networked environment where a comprehensive and complete view of the theatre of operations is made available for strategising and monitoring the operations.

## Network-centric warfare is increasingly used today. How do you see the changing way wars are fought and what is in store for the future?

Yes, the era of network-centric warfare is here with its precision sensors, battlefield management systems and effectors. For example, during the war in Iraq, high precision technologies were deployed to minimise civilian casualty. Military commanders are increasingly moving towards integrated C4ISTAR solutions to make effective command and control decisions in the 'digital' battlefield environment.

All nations are currently on the road to digitisation, transforming their armed forces into a coherent and synchronised organisation, enhancing the speed of sensing, decision making and proactive action, beating the enemies in 'observe orient decide and act' – OODA cycle. Today, it is possible to network digitised platforms and soldiers into a coherent sensor-command-shooter grid, with sensors, weapon systems, decision makers and shooters/actors connected with state-of-the-art communication systems.

Apart from the conventional war, anti-nationals like Naxals are creating new and asymmetrical threats. Low intensity conflicts between terrorists/anti-national elements are growing all over the world and India is one of the worst affected countries. Beyond conventional methods of engagement, security forces across the world are now required to actively counter terrorism, insurgency and other such homeland security operations. C4ISTAR systems configured to these specific needs can bring efficiency to sensor-to-action chain.

## Rolta's Geosptial Fusion offers a decision support system for security agencies. Can you elaborate on its functionality?

Security is more than protection from terrorist attacks. It means protecting life, property and critical infrastructure from any disaster. Rolta's Geospatial Fusion enables multi-source data collection, integration, analysis and dissemination (data fusion from disparate databases) and supports over 200 non-geospatial database types. This solution provides the power to bring information together from various systems including legacy systems. Automated systems of various agencies like police, national and State intelligence agencies, municipal corporations, transport departments and hospitals can all be brought on to the same platform to provide a common operational picture for decision making and action.

Conventional Ops room Mapboard

Electronic Mapboard with search and find tools

**Automation and real-time imaging analysis is the need of the hour for rapid mapping and feature extraction, change detection and assisted target detection and recognition. Is India catching up with these latest technological requirements?**

Absolutely. India is very much catching up with these technologies. India's fast growing economy has led to an increased spending in defence and homeland security segments, year on year. A quantum jump is expected in defence CAPEX spending, which is likely to touch 50 billion USD over the next few years.

The need for rapid modernisation of the army, navy and air force has resulted in the government allocating a large budget for the year 2010-22 to Rs 147, 344 crore with about 40% allocated for capital acquisition budget – for new acquisitions, clearly indicating the trend towards modernising the defence sector.

India is investing in systems for multi-sensor data fusion, automated change detection including feature extraction, mission planning, GIS and MIS info exchange and image exploitation. Armed forces have initiated several modernisation programmes including soldier systems, radios, GPS tracking, night vision goggles, night vision weapon sights, automated minefield recording systems and thermal imaging fire control systems for tanks.

Besides, key projects are also being launched in maritime safety and security space for coastal surveillance by coastal police, national AIS by DG light house and light ships, vessel traffic management systems by various ports, night navigator system for high speed boat by Coast Guard, amongst others.

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Rolta is ready with solutions to address these modernisation needs with state-of-the-art technology, brought in from its foreign collaborators and its own R&D facility. With 20 years of domain knowledge in the country, Rolta has further customised and modified the solutions to enhance its usability in the Indian context. There is a tremendous momentum among internal security agencies after 26/11 to lap up latest technologies. Many States like Rajasthan J&K, Maharashtra are using our homeland security solutions. The real effect of a homogenous system will be felt only after some more time though.

**GIS Development is launching a dedicated publication for defence and internal security community.**

Defence and homeland security are the key for the survival of a nation, more so for a country like India, which is developing at a fast pace. Today, India's GDP has touched 1 trillion USD after 63 years of independence. But in the next 10 years, India's GDP is expected to touch 3-4 trillion and 5-6 trillion in 15 years. This is possible only when the country remains on a peaceful path of growth. GeoIntelligence magazine comes at the right time to create more awareness about the use of geospatial technologies in defence and internal security aspects. This is a laudable step.