

*Forward thinking
to meet any challenge*



TSG IT Advanced Systems

Company Profile

TSG is a global provider of IT technologies, accelerating innovation that delivers significant value for business operations.

TSG, a partner of choice for many leading enterprises, provides connected digital workflows, powerful analytics, applied intelligence, and real-time data to transform mission-critical operations of government agencies, military units, businesses, and industries. We channel data to drive insights and action in all domains: intelligence, telecom, cyber, homeland security, defense, municipal, and healthcare. Helping you adapt to changing demands with agile technologies pushing the limits of what is possible.

TSG is a private company, jointly held by IAI (Israel Aerospace Industries) 50% & Formula Systems 50%.



 **Formula Systems**



What we do



Command and Control

- Strategic Level
- Operative Level
- Tactical Level
- Municipal Level



Telecom and IT Systems

- Cloud-Base Omni Channel Contact Centers
- Telecom & IT Management
- Data Centers Solutions
- Command & Control Centers
- Efficient Digital Workflows



Homeland Security

- Disaster Management
- Border/Critical Infrastructure Protection
- First Responders C&C
- Advanced Video Analytics
- Safe City
- Smart City



Intelligence

- Big Data Analytics for Businesses and Government Operations
- Visual Intelligence
- Maritime Intelligence
- Electronic Warfare



Cyber Security

- Cyber Forensics Solutions & Services
- Security Operations Center (SOC / CSC)
- Critical Infrastructure Cyber Protection (CERT)
- Cyber Security Trainer



Supporting Tools

- Recording & Debriefing
- Mapping Engines
- Asset / Property / Space Utilization Management

Command & Control (C²) Solutions



TSG's offering includes a wide range of Command & Control solutions – from upper echelon commands to the micro-tactical level. All TSG's systems are operational and field-proven, and are used by global customers in a variety of demanding scenarios:



Strategic/Operative Command & Control – Integrated Command and Control System (ICCS)

The IDF Strategic C5ISR system is a true force multiplier for strategic and operative commands. The ICCS provides military commanders and staff members along the chain of command with complete and unified situation awareness of the battlefield in diverse situations – battlefield engagements, and routine operations. Seamless integration of other C2 systems and assets, high scalability and state-of-the-art technology enable and support intelligent decision making in a rapidly evolving operational environment.



Air Defense Command and Control System (ADCCS)

TSG is a leading provider of C2 solutions for Theatre Ballistic Missile Defense. The IAF Advanced Air Defense C5ISR System is in operational use by a variety of modern air forces globally, providing a unified air-situation picture and comprehensive operational management for both air forces and civil air-traffic-control organizations.



Naval/Coastal Command and Control (NCCCS)

The NCCCS is a Command and Control system that effectively supports coastal surveillance, EEZ protection and blue water naval operations, providing a comprehensive maritime situation picture, mission planning capabilities and decision-support tools.



Tactical C4I (TControl) - The Israeli SWAT C4 System

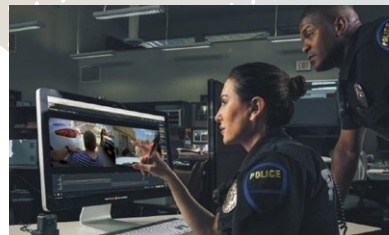
An innovative C4I suit for mobile tactical forces, TControl provides overall video, voice and data connectivity between all tactical forces operating within the scene. Utilizing various communication means, without additional hardware, TControl is in operational use by a range of special forces and counter terror units worldwide.

TSG's broad HLS solutions for governments, law enforcement, emergency agencies, and municipalities provide customers with advanced technology-based systems to best encounter emerging homeland threats. We keep security forces connected and coordinated on critical missions to maintain cities and communities safe.



Disaster Management System (DMS)

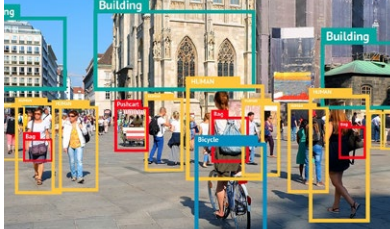
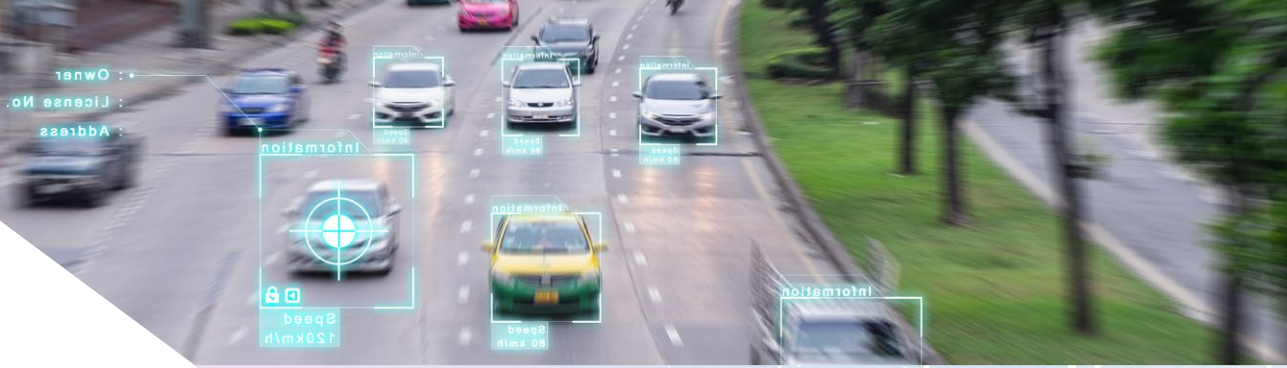
The Israeli Home Front Command DMS Command & Control system is deployable from the strategic to the local and field engagement levels. It enables a unified common situation picture, coordinated-response mission planning, optimized utilization of available emergency teams and resources, effective command & control, and communication with the public in both crisis and routine operations.



First Responders C2 (AwareNess)

A field-proven emergency management system designated to assist first responders (ambulance services, police, and fire brigades) to coordinate effectively in order to drastically improve mission efficiency. AwareNess incorporates advanced fleet management & dispatch, and decision-support capabilities, upgrading performance also in daily routine missions.

Homeland Security Solutions (HLS)



Safe City

Coping with threats to public safety and critical infrastructure has become a main mission of security agencies around the world. TSG's real-time data fusion system monitors, detects, identifies and alerts, in order to provide an integrated urban situation picture. Our system monitors and tracks abnormal human behavior or moving objects in real time, in order to dramatically minimize response time to threats.



Border Control (B-Guard)

A comprehensive, integrative approach for border and critical site protection with methodical localization and customization based on detailed threat analysis. TSG's solution combines multi-disciplinary response design with various sensor types on different platforms, unmanned aerial vehicles, patrol and interception mobile formations, obstacles, intelligence gathering and analysis, communications solutions and state-of-the-art Command & Control centers, for effective ongoing operations and incident response.



Smart City & Digital City Program - TSG Unicipal

Urbanization and technological acceleration require a new approach to delivering municipal services and information using modern digital channels. TSG Unicipal, a unique combination of technology and operational procedures, transforms the municipality from reactive to intelligently active for its residents. Among our deployments are Thane, India (DigiThane) and Tel Aviv ("DigiTel" program which won the "Smartest City 2014" award in Barcelona Smart City Expo). Our mission is to improve the residents' quality of life and increase their sense of belonging by creating meaningful communications with the municipality. The program increases residents' ability to influence while providing municipalities with an excellent decision-support tool that is based on up-to-date, accurate targeted information.

HLS Solutions



SmartEye

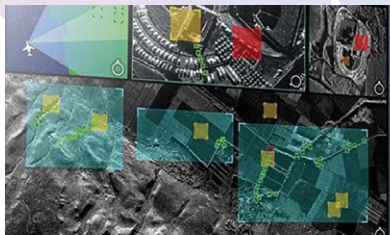
SmartEye harnesses the power of video analytics with Data Fusion Engine to generate a single dashboard rule-based monitoring and alerting system. This innovative surveillance solution allows to effectively process, analyze and monitor large volumes of real-time and historical video data. The main goal of a video-based analytical tool is to increase

operator efficiency and reduce false alarms. Fusing data from various analytical tools improves alarm accuracy and certainty. SmartEye enables object-tracking-based solid situational awareness in dense urban scenarios, by automatically detecting suspicious behavior in real-time. As a result, the system provides an operational environment in which control rooms benefit from reduced manpower and more accurate response when monitoring protected sites.



TSG's industry-leading intelligence and knowledge-management solutions meet the demanding requirements of defense, law enforcement, intelligence agencies, research institutes, and knowledge-intensive firms around the world

Intelligence & Knowledge Management Solutions



Visual Intelligence

The Advanced Visual Reconnaissance System (AVRS) is a sensor-independent visual interpretation system enabling video and image processing in real time for automatic target acquisition.

The highly effective system significantly accelerates the process of target detection to recognition. Available in various configurations, including airborne, ground and naval, AVRS also enables complete remote control over E/O sensors.



Data Fusion & Artificial Intelligence (AI)

TSG is at the forefront of developing cutting-edge data fusion engines and algorithms to generate accurate, mission-critical, real-time situation picture for business operations, defense, homeland security, intelligence and government agencies, medical science and healthcare needs. AI together with data fusion solutions, harness the power of machine learning algorithms to further improve vital insights, gain situation awareness and control the flood of information.

Intelligence & Knowledge Management Solutions



Maritime Intelligence (2C)

The 2C system accelerates the detection of suspicious activities such as illegal fishing, oil theft, smuggling, ship overtaking and other hostile activities. Automatic event recognition is based on machine learning algorithms, AI and predictive analytics of vessels routines, patterns of criminal targets and historical data. Smart alerts are generated enabling users to see the “big picture” of maritime activity.



Accurate 3D Coordinates Extraction (EarthSolver)

With TSG EarthSolver user can extract accurate 3D coordinates from images or video, within seconds, in a very simple and intuitive process. Earthsolver is utilized to generate accurate targets in a very short period of time. It can be used by ground forces for target observation missions and to direct guided armament with minimal residual damage.



Analysis and Knowledge Management (NSDE)

TSG has vast experience in delivering a wide range of state-of-the-art big data search and discovery capabilities. Responding to current need of law enforcement and intelligence agencies, research institutes, and knowledge-intensive firms these

systems implement the entire intelligence cycle. Offering collection management, analysis, smart data correlation (both unstructured, structured, GIS and Link Analysis) and dissemination, while implementing best practices of the big data era. TSG delivers cutting edge search engines incorporating advanced language-sensitive retrieval capabilities and semantic text analytics with rapid deployment. National Smart Discovery Engine (NSDE) provides faster and more efficient data processing in order to focus on precise desired information and gather insights from numerous data sources.

TSG ensures extensive experience in developing and integrating telecom solutions for commercial and military applications. Leveraging deep telecom know-how, TSG lead the way with digital transformation.



Contact Centers

TSG is a leading designer and integrator of cloud-based omni-channel contact centers for large enterprises, a field in which it maintains unique expertise in value-added services such as integrated voice and digital channels, IVR, IP Centrex/hosted PBX solutions, voice portals and voice recognition.



Back Office Optimization

The intelligent Workload Distribution (iWD) system enables distribution of back office tasks based on business values and dynamically updates task priorities in accordance with predefined rules and SLA. Use of the Back Office Optimization system dramatically reduces back office operational costs, by maximizing employee efficiency while increasing customer satisfaction.



Data Centers and Cloud

In the dynamic field of cloud and DC migration TSG provides a complete set of services including Design, construction and installation of DC and cloud hardware and software based on the world's leading vendors. TSG also provides services for systems migration and modernization as well as day-to-day DC operation.



Network Management & Control Suite (NMACS)

NMACS is used by large scale multi-technology commercial and military networks for managing & monitoring multi-vendor diversified networks (e.g., fixed, wireless, VoIP, encrypted and cellular). Intuitive GUI helps monitor & control the entire network from one centralized management system minimizing OpEx, CapEx, and time to service. A Manager of Managers approach utilizes existing EMS (Element Management Systems), legacy OSS, and COTS (commercial off-the-shelf products) reducing time, effort, and costs of otherwise necessary customization work.

Cyber Security Solutions



Critical Infrastructure Cyber Protection

Industrial Control Systems (ICS) are targeted by cyber attackers daily, as security breaches within these systems may cause not only data leakage or data integrity but also a denial-of-service or even physical shut down/damage. Bringing years of experience with ICS and SCADA cybersecurity TSG was selected to establish and operate the Israeli Ministry of Energy, Water, and Critical Infrastructure national CERT (Computer Emergency Response Team). The CERT provides each relevant stakeholder and decision-maker in the organization a Common Operational Picture of the Cyber Security Status, Event Management capabilities, Intelligence, and procedures. Using network monitoring (both IT and OT) TSG's Security Operation Center (SOC) receives alerts that are prioritized for immediate action, further monitoring, or containment.



turnkey project, where TSG provides customers with a complete customized center inclusive of personnel recruitment and training, or the CSC, as a managed service where enterprise/corporate customers can directly and immediately benefit from TSG's extensive cyber protection experience and know-how, without the need to launch their own CSC development project.



Cyber Training

Q.rity (a subsidiary of TSG) provides over 30 different cyber courses through QCT (Q.rity Cyber Training Center (QCT)). Full end to end cyber training using a cutting-edge simulator is available in any location or with cloud access. QCT simulator monitors the progress of each trainee, as he or she get scores, and rate them according to their skill and capabilities. Leveraging any organization vigilance for the next cyber-attack. IT/OT experts in industrial facilities, academic institutions, government agencies, and private/public corporates dedicated task force can master network security, CEH, SOC, threat intelligence and OSINT, forensic, penetration testing (Pen-Tests) and more. As the threats to OT equipment rise, QCT added also: ICS forensics, ICS exploitation, and offensive C/Python/ PowerShell – these allow organizations to effectively overcome their vulnerabilities.

Cyber Security Center (CSC)

TSG develops, operates, and supports CSC for national, sectoral, and enterprise levels. The main domains are monitoring (SIEM/SOC), intelligence, forensics investigation lab, awareness center, and response team. Worldwide CSC is deployable in 2 main delivery modes: the CSC

Supporting Tools

TSG offers support systems ranging from simulators and test beds to geographic information systems (GIS), facility management solutions and customizable recording/debriefing systems.



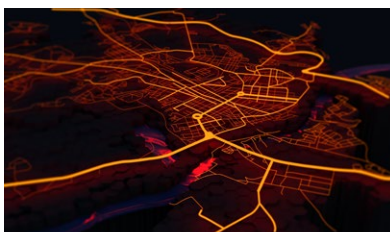
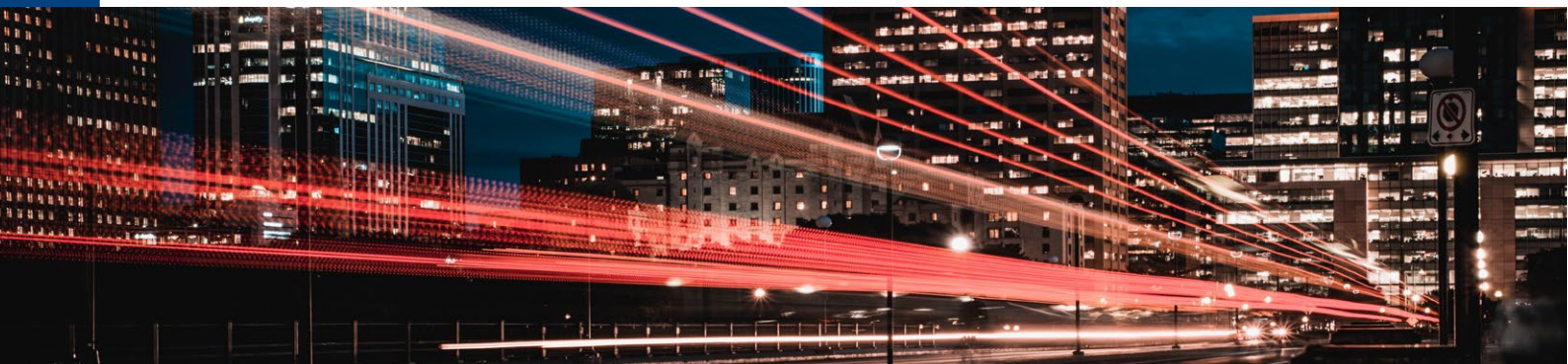
Recording/Debriefing (HindSight)

Efficient situation management is now possible with HindSight in any multisystem environment. The system provides simultaneous audio, video, radar, and data network recording. Simple deployment combined with an intuitive interface enables monitoring and recording to be done within minutes. Valuable debriefing with accurate information improves operational quality and workforce proficiency. HindSight is used in mass transportation services and is also a perfect solution for any training facility enabling students and professionals to refine competency and maintain operational knowledge.



Facility Navigator (FN)

FN, an interactive, intuitive, and comprehensive system for the monitoring and control of onsite infrastructure. Featuring an indoor Geographic Information System, FN is a cloud-based tool divided into flexible modules tailored to user needs (e.g., electricity, water, air conditioning, voice & data networks, assets, and workforce space utilization). The interface allows you to make changes to workstations and save on critical real estate space. For maintenance and security purposes location of equipment is immediately traced on graphical displays, during malfunctions. FN is a powerful and reliable source for managing extensive information in a multi-user environment.




Mapping Engines

New Web Mapping Infrastructure (NeWMI) offers a real-time mapping engine, designed for military & mission-critical applications. Based on leading ESRI & Google maps it meets a very high-performance requirements of any GIS based applications.



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