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Profile of New Sustaining Members

Global Scan Technologies L.L.C

Global Scan Technologies L.L.C (GST), is one of the subsidiaries of Belhasa International which was established in 1960, is leading in providing Remote Sensing and Geographic Information System services.

Global Scan Technologies mission is to enhance the understanding of earth surface from space, properly manage and exploit resources, and effectively preserve the environment. GST provides cost effective innovative Geospatial solutions and strives to empower the customers to excel in education, be creative in research, make informed viable decisions and formulate sound policies.

GST provides total geo-information solutions across the world coverage. Nowadays GST covers a range of products and services including; satellite & aerial Data provision, Remote Sensing, GIS, Environmental Solution, Underground Resource Exploration, Geophysics & Seismic Survey, Software provision and Training.

GST is a leading company in providing very high resolution satellite images, aerial photographs, and LIDAR survey. The company has its own receiving station for Indian satellite imagery IRS IC & ID (5 meter and 23 meter resolution), which allows GST to store an archive data for all the Middle East region. in addition to that the company provides the Indian satellite data (e.g IRS P6 multi spectral imagery with 5 meter resolution), ASTER data (15 m, 30m, and 90m), with 14 bands and sterero capabilities, ORBVIEW- 3 for Im pan and 4 m color data. GST provides its customer with RADARSAT with Reso-

lutions (8 - 100 meters). Moreover GST provides Aerial Photograph survey and LIDAR survey. GST provides its customers with raw data as well as processed data, geometric correction, mosaic, merging, enhancement, ready to use satellite and aerial photographs, and satellite maps. GST can provide ortho rectified imagery and generate DEM/DTM.

GST oriented itself to be the first private company in the Middle East in proving remote sensing applications particularly thematic mapping of natural resources (soil, natural vegetation, geology,...), as well as others such as water management, land use/urban planning, environmental impact assessment, sites selection for different activities, land degradation analysis, coastal Zone management, marine habitat assessment and analysis.

GST is dedicated to a complete range of value-added services for GIS applications in the fields of urban planning, cartography, land use/land cover mapping, environmental monitoring and visualisation. GST provides integrated GIS solutions to utilities, telecommunications, transportation and civil government verticals. The company's range of GIS services extends from data management and software development to implementation, system integration and consultancy services.

GST is involved into Environmental Services, including Air quality assessment and Monitoring, Surface water and Groundwater quality Mapping, Desertification and Sand movement monitoring, Biodiversity studies of both offshore and onshore, Fish Potential Mapping, Mapping of Sediment quality, Oil spill detection studies, as well as marine pollution detection.



GST has strong and proven technology for underground resources exploration; oil, gas, water, minerals and others. This technology uses the satellite imagery, special algorithms based on mathematical models explaining the relationship of the interior of the globe with the surface, and other minor parameters. This technology is very cost-effective, fast in term of time and very friendly to the environment as it doesn't need any seismic investigations.

GST geophysics Services include; Resistively survey for Groundwater Resources, Assessment and Aquifer Characterization, Airborne Magnetic Survey for Bed rock Mapping, Vertical Electrical Soundings, Interpretation of Seismic data for Oil and Gas Exploration, Establishment of Seismic Station to Monitor the shock waves in the Earth Crust, Establishment of High frequency digital GPS Station to monitor the Earth Crust Movements.

GST always focuses on quality and cost effective solutions. This also applied to software provision to help our customers to utilize the technologies of remote sensing and GIS with full capability. ENVI is the ideal software for the visualization, analysis, and presentation of all types of digital imagery. IDL Interactive Data Language is the ideal software for data analysis, visualization, and cross-platform application development. The SUMMIT EVOLUTION digital photogrammetric workstation is a user-friendly system for performing 3D feature collection directly into AutoCAD®, MicroStation®, or ArcGIS®. DAT/EM CAPTURE™ and STEREO CAPTURE are for Feature data collection. STAR GIS software offer the most advanced map production solution combining world-class CAD, GIS,

WebGIS and publishing functionality. SCANMAGIC is a powerful huge image display tool.

The Remote Sensing and GIS industry changes rapidly. In order to keep our clients up to date with remote sensing and GIS technologies and their various applications, Global Scan Technologies is pleased to offer an ongoing series of short training courses/workshops and to provide educational services for public and private research institutions.

Partnership is a very important aspect of our business. With our local expertise and the market presence and strong technical support from our partners, we are able to reach out to more customers and deliver a strong value proposition. GST has a set of technology partners with whom we work to connect the synergy which our solutions can bring to our costumers. Through these alliances, we leverage each other's respective strengths to deliver more value to the End-Users. our partners list includes National Remote Sensing Agency of India and ANTRIX (India), DAT/EM (USA), ERSDAC (Japan), ORBIMAGE (USA), NGRI (India), Scanex (Russia), Infotech (India), RSI (UK), RADARSAT INTERNATIONAL (Canada), STAR ME (Saudi Arabia) and others.

Recently GST achieved a successful project of remote sensing and GIS application for natural resource mapping which cover land use land cover, soil, natural vegetation, geology and hydrogeology. Also many other projects for oil& gas exploration in Brazil, Indonesia, Korea,.... others project are in progress.

PROSIGCONSULT

Aerotriangulation

PROSIGCONSULT performs digital aerotriangulation process using high software technology. This technology allows PROSIGCONSULT to calculate the compensation for blocks with large number of images. The aero triangulation project can be considered as one block, which includes all the images that cover the desired area, or as multiple blocks, bounded by common images. Where are available, the existent technology allows PROSIGCONSULT to use GPS and IMU values as entry data in aero triangulation projects. For each images block, PROSIGCONSULT provides a complete report, including detailed proceeding used to reach the desired results.

Mosaic

At PROSIGCONSULT, the mosaic production means a complex process, including such as image orthorectification, initial quality control, automatic generation of the inlay and seem lines, final quality check-up, editing and

manual correction. The mosaic producing methods also include the analyses of the images that are to be orthogonalized and careful verification in stereo mode, of the DEM/DTM that exists or is produced by PROSIGCON-SULT. The orthogonalization quality control includes: visual analysis of the image, to spot the distortions or other anomalies, the orthophotoplan geometrical framing verification, verification with an adjacent orthophotoplan, in and between the strips, followed by photo editing processes like the equalization of the hues. The final mosaic tiles are delivered in various types of images, compressed or decompressed, at various scales, in conformity with the client requirement. TIME INDICATORS: depending on the scale, pixel values, level of photo editing (the highest level means removing white spots and naps coming from the scanning process), number of tiles, type of image (if it supposes to be done a compressing process).

Stereo Restitution

PROSIGCONSULT carries out digital stereo restitution, using workstation equipped with hardware and software modules for modern stereoscopic processing, whose con-



figuration is constantly updated, providing, this way, compatibility to the obtained results. Joining the vast experience of the experts with the representative software and hardware technology, PROSIGCONSULT provides both high productivity and high quality of the final products. By its well-structured organization, PROSIGCONSULT has the possibility to carry on simultaneously stereo restitution projects, with scale between 1:100 and 1:1000000. Based on the accumulated experience, through the cooperation for major projects with cartographic firms from Italy and Portugal, PROSIGCONSULT has the possibility to carry out stereo restitution projects for large areas (over 3000000 ha). The flexibility of the stereo restitution department ranges from the willingness to assimilate and implement new software technologies to the ways in which the products are delivered to the clients, materialized in various data of categories.

GIS

From consultancy to conversion and implementation, PROSIGCONSULT offers the GIS solution you are looking for. The GIS Department is made up of specialists whose experience represents the support of advanced knowledge of our firm. As our specialists where involved in major projects, we will understand the client's requirements, providing, at reduced costs, consulting services, data bases establishment, digital maps, geographical analyses and other GIS applications.

PROSIGCONSULT consider that a successful project is guaranteed by the assignment of the necessary time to develop a proper plan that will lead to meeting the client's requirements.

- Requirements analysis
- Assessment of the performance and accomplishment
- Project details (graphic and data base)
- Application systemization
- The system integration projection
- Project administration
- Implementation and training.

Our experience in GIS designing, creation, management and conversion of data bases, allows us to provide the client both the necessary assistance throughout the implementation process and necessary training.

School of Civil Engineering and Geosciences, University of Newcastle upon Tyne

The School of Civil Engineering and Geosciences was created in August 2002 to address the needs of research, teaching and professional development in a 21st century society concerned with man's interaction with, and influence on, the natural environment. It brings together leading researchers and teachers from across the University of Newcastle upon Tyne, together with support staff and state-of-the-art facilities. It operates through specialist, and often multi-disciplinary, research and teaching groups which have diverse interests, but which are united by a common desire to develop and understand the science and engineering of both natural systems and constructed infrastructure.

Geomatics@Newcastle, located within the School, operates two undergraduate degree programmes in geomatics and is committed to furthering the science of geomatics by undertaking high quality and essential research and ensuring the scientific community and industry benefits from its implementation. Our research encompasses project areas spanning a spectrum of activity across geomatics, including:

Precise orbit determination and calibration of altimetric satellites:

Of such satellites as ERS and TOPEX/Poseidon using all

available tracking and altimeter crossover data and comparison against tide gauge data and other altimetric missions.

Gravity field satellite missions:

Earth's gravity field determination to unprecedented accuracy using the new gravity field satellites CHAMP, GRACE and GOCE.

Global geodesy and geodynamics:

Maintaining global coordinate systems used internationally for precise geodesy, and studying plate tectonics by observing the geodetic movement of sites in these systems.

Deformation monitoring in the natural environment with GPS and remote sensing:

Very precise geodetic measurements to study geophysical processes worldwide, especially those associated with the hazards of earthquakes, volcanoes, coastal erosion and sea-level change.

Synergistic fusion of geomatics sensors and techniques:

Integration of absolute and relative measurement, plus digital data from GIS, to overcome informational short-comings in individual methods and calibrate one against another.

Non-contact precise measurement techniques:

Ground based techniques utilising all forms of variations in electromagnetic variation and technologies including cameras, laser scanners and EDM.



Natural and urban environment spatial data management: Creating efficient systems for handling multi-dimensional data in the natural and urban environments.

Spatial network data modelling, management and implementation: Development of tools and generic data models as required to manage and analyse spatial networks.

Spatial information intelligent delivery:

Methodologies and implementation for delivery over the Internet of spatial information retaining its full analytical capacity.

For more information visit http://www.ceg.ncl.ac.uk

