Our service capabilities include:

- Land Development Surveys
- Resources & Infrastructure Surveys
- Mobile Laser Scanning
- Terrestrial Laser Scanning
- Aerial Laser Scanning
- Hydrographic Surveys
- Mapping Services
- Cartographic Services
- Geographic Information Systems (GIS)
- Advanced Subsurface Investigation
- 3D Visualisation
- Hologram Studio

MNG is able to quickly and efficiently respond to projects with an ability to mobilise from convenient regional locations in close proximity to land developments, transport infrastructure, ports, mining and energy operations.

Providing a complete range of survey and specialist spatial services, MNG ensures efficient and cost effective solutions are provided for every project.

We value developing long standing business relationships and continue to deliver outstanding service through our commitment to excellence, innovation and growing our people.

TEAMWORK. INNOVATION. KNOWLEDGE.

MNG IS WESTERN AUSTRALIA’S LARGEST PRIVATELY OWNED SURVEY AND SPATIAL INFORMATION COMPANY. WITH A HEAD OFFICE IN PERTH AND SEVEN OFFICES LOCATED IN SYDNEY, PORT HEDLAND, ONSLOW, NEWMAN, KUNUNURRA, BROOME AND THE SOUTH WEST.
McMullen Nolan Group (MNG) is Western Australia’s largest privately owned leading survey and spatial information company servicing the land development, resources and infrastructure sectors. Currently MNG conducts approximately 40% of the greenfield subdivisions throughout the Perth metropolitan area.

The core business strategy is based on the provision of land development services to large scale subdivisions. This strategy has enabled the company to become the preferred supplier of survey and spatial information services in Perth with a dominant share of the metropolitan land development market. MNG’s reputation for service is reflected in more than 60 Urban Development Institute of Australia (WA) Awards for Excellence.

The services strategy includes a core of qualified, experienced and professional staff members supported by modern facilities and cutting edge technology including state-of-the-art survey, computer and mapping equipment.

MNG’s team of experienced project managers, licensed and engineering surveyors, computing professionals and project assistants ensure the company delivers leading edge project solutions.

Land development services include:
- Licensed cadastral surveys
- Small - large scale subdivisions
- Commercial and residential strata plans
- Base mapping
- Topographical and detail surveys
- Data management
- Land titling advice
- Sales plans and web based sales
- Services set-out and as-constructed
- Terrestrial and mobile laser scanning
- Audit surveys
- Environmental monitoring surveys
- GPS control
- Route, infrastructure and transport surveys
- Photogrammetric control surveys
- Precise geodetic surveys
- Volume surveys
- Subsurface utility location
- Subsurface geophysical investigation
- 3D Visualisation
- Aerial and Mobile Laser Scanning

The Clearance Tracking System allows clients to send an email enquiry to the project manager, retrieve a copy of the WAPC approval, view/download the Deposited Plan (DP) and legal documents in addition to any notes made with each authority.

Clients also have a dedicated MNG project assistant who maintains a close contact with service authorities to ensure the quickest possible delivery of clearances and titles.
RESOURCES & INFRASTRUCTURE

OUR EXCEPTIONAL SAFETY RECORD, PROFESSIONAL SERVICE AND ACCESS TO CUTTING EDGE TECHNOLOGY HAS ENABLED MNG TO ACHIEVE OUTSTANDING RESULTS FOR OUR RESOURCES AND INFRASTRUCTURE CLIENTS.

ENGINEERING, CONSTRUCTION AND MINING

MNG’s resources and infrastructure survey and spatial services include mining production support, exploration operations, civil and structural construction, dimensional control, monitoring applications, scanning, shutdown services, exploratory geophysical investigations and video mapping applications.

Staffed by highly experienced project managers, mine and engineering surveyors, the company has a focussed commitment to quality and safety whilst ensuring the client’s project needs are met at all times.

Engineering, construction and mining services:
- Audit & monitoring surveys
- Civil & structural set out
- Deformation monitoring
- Dimensional control
- Exploration, environmental & heritage surveys
- Geohazard location geophysics
- Geotechnical design geophysics
- Hydrogeology geophysics
- Imageview video mapping
- Infrastructure construction
- Infrastructure maintenance
- Mechanical alignment
- Mine production surveys
- Mining leases
- Mobile laser scanning
- Photogrammetric surveys
- Precise geodetic surveys
- Stockpile density testing
- Shutdown services
- Terrestrial laser scanning
- Topographical, volumetric & detail surveys
MOBILE LASER SCANNING (MLS) COLLECTS COMPREHENSIVE, HIGH ACCURACY DATA ALONG INFRASTRUCTURE CORRIDORS.

The MLS system has been deployed on a large range of corridor surveys across Australia, and has proven to be a safe, efficient and cost effective addition to MNG’s range of services.

As the vehicle moves the laser rotates, rapidly collecting millions of points per second, measuring to within a few millimetres in accuracy up to 100 metres from the vehicle. Image data is simultaneously collected by a 360° camera.

Processing teams utilise the latest suite of pointcloud software for combining data sets and extracting CAD files as required by the project.

MNG’s MLS results have been independently reviewed to deviate less than +/- 15mm from traditional field surveys. This high level of accuracy meets and surpasses the expectations of the Departments of Main Roads in all Australian States.

A key safety benefit of using MLS for road and rail corridor surveys is the reduced risk to operators in comparison to conventional surveying techniques. MLS enables operators to work from within their vehicle and does not require them to work outside on or near the road or rail during data collection.

MNG has also developed a unique methodology to ensure the highest quality of data is captured during field acquisition. These include target designs that enable the survey to be carried out at normal traffic speeds providing significant advantages over the conventional targeting approach which requires the vehicle to slow at preset targets.

Our field methodology also requires several data sets to be collected along each corridor, which provides confidence in final results and the ability to identify any sections of poor data.
GOOD DATA IS THE CORE OF ALL GREAT SYSTEMS.

At MNG we are well known for our innovation, quality and accuracy.

MNG’s dedicated mapping team has a range of experience to accurately collect critical location information including precise 3D data capture, seamless orthophoto maps, detailed digital terrain models and carefully colour balanced image mosaics.

The specialist mapping team provides mapping services to the land development industry, government, emergency services and the mining industry.

Service solutions include:
- Mapping from aerial and satellite imagery
- 3D topographic digital data capture
- Rapid and accurate 2D mapping from existing orthophotography
- Terrain model generation and editing
- Orthophoto maps and seamless colour balanced mosaics
- Cut/Fill volume calculations
- Aerial/satellite image sourcing and advice
- Historical image overlays and mapping
- Ground control surveys and quality auditing of aerial photography and LiDAR products
- CAD and GIS data-sourcing and products with various overlays
- Printing and block mounting of high resolution imagery for display
- LiDAR data feature extraction and validation
MNG OFFERS SPECIALIST CAPABILITIES IN SHALLOW GEOPHYSICAL AND APPLIED PHYSICS FOR GEOTECHNICAL, ENVIRONMENTAL AND ENGINEERING INVESTIGATIONS.

The use of geophysical methods is becoming increasingly recognised as a valuable tool in geotechnical, environmental and structural investigations. The ability to rapidly and accurately image subsurface and structural features means geophysical methods can be used independently or in conjunction with traditional geotechnical and engineering methods to improve results while minimising risk and cost.

In partnership with MNG, GBG Australia Pty Ltd (GBGMAPS) are able to provide a full survey package including integrated surface and subsurface survey information, detailed subsurface survey information or karstic topography for land development risk management and locating buried services on roadways.

Experienced geophysicists and site investigation engineers oversee the capture and interpretation of data using a range of best practice techniques in the following categories:

GEOTECHNICAL INVESTIGATIONS
- Void detection
- Ballast/rail bed profiling – thickness and condition
- Roadway design and route selection
- Pipeline cable route investigations
- Port and harbour development
- Bedrock mapping
- Determination of S-wave velocity and dynamic modulus

ENVIRONMENTAL INVESTIGATIONS
- Archaeological surveys, unmarked grave locations
- Locating buried utilities
- Detecting drums and underground storage tanks (USTs)
- Delineating landfills, burial trenches and filled in waste lagoons
- Salinity mapping
- Forensic investigation techniques utilised
- Tree root mapping
- UXO location and disposal

STRUCTURAL INVESTIGATIONS
- Non-invasive investigation of concrete, masonry, timber and metal structures to provide construction and condition information
- Rebar/PT duct identification for coring or break outs
- Pile integrity testing
- Re-specification of building construction
- Tunnel lining thickness and condition
- Heritage building investigation

FOR THE PROVISION OF GEOTECHNICAL AND GEOHAZARD INVESTIGATIONS MNG PROVIDES SHALLOW MARINE GEOPHYSICAL AND HYDROGRAPHIC SERVICES SUCH AS SUB-BOTTOM PROFILING, CONTOURING, SIDE SCAN SONARS AND CONTINUOUS MARINE SEISMIC REFRACTIONS.

The use of Real Time Kinematic (RTK) differential GPS positioning allows a vessel to work in any location via the use of a mobile base stations. MNG has a range of vessels to provide flexible hydrographic survey solutions. Our services range from surveying a dam to larger projects including harbour clearance surveys.

Hydrographic Survey services include:
- Harbour maintenance
- River and estuary surveys
- Debris and clearance surveys
- Beach and canal profiling
- Dredging and engineering surveys
- Shallow marine geophysics
MANAGING AND VISUALISING YOUR LOCATION INFORMATION.

At MNG we have the software knowledge and skills to ensure you receive a premium return on your spatial investment.

Our GIS services include:
- Data management and standardisation
- Data conversion and re-projection
- Database design and development
- Data capture, data sourcing, metadata creation and attribute design
- Map production, ownership maps and data analysis/reporting
- Consulting services

3D ENABLES YOU TO VISUALISE YOUR WORLD IN A WAY EVERYONE CAN SEE AND UNDERSTAND.

Measure length, width and height easily and interact with the 3D world in intuitive ways. MNG has cutting edge technology to create realistic 3D virtual worlds to showcase projects or implement as a consultation tool easily understood by all.

Integrate your CAD, GIS and image data into one standard operating platform for a unified view of your information and then plan ahead using various scenarios to explore change impact.

3D services:
- 3D terrain models and imagery
- 3D object models – from low to high detail
- BIM models
- Revit models
- Integration of CAD and GIS data into a 3D visualisation
- Fly-throughs and 3D presentations
- Software integration into corporate IT systems
- Software customisation
THE VEHICLE. Image data is captured by a 360° camera with millimetre accuracy up to 100 metres either side of points per second measuring everything within a few millimetres. The system’s rotating laser collects a million points per second and is capable of being deployed on any mobile platform. The system allows infrastructure corridors to be mapped with unprecedented accuracy and efficiency throughout the surveying industry to make substantial changes to the results of its services.

CLEARANCE TRACKING SYSTEM
MNG has developed a Clearance Tracking System for its land development division where all calls to service authorities are recorded. The portal, which is accessed via our website, allows customers and consultants to track the progress of clearances in real time. Each customer is issued a secured login for each project.

Through this portal, clients can view the latest version of Deposited Plans (DP), WAPC approvals and can email the MNG project manager directly with any queries they may have.

MOBILE LASER SCANNING
MNG was the first company in Australia to pioneer and fully develop the potential of 3D Mobile Laser Scanning (MLS). Drawing on our extensive experience gained from Terrestrial Laser Scanning (TLS), we coupled a high speed 360° LiDAR scanner with high accuracy GPS and inertial technology to create Australia’s first MLS system.

The system allows infrastructure corridors to be mapped with unprecedented accuracy and efficiency and is capable of being deployed on any mobile platform. The system’s rotating laser collects a million points per second measuring everything within a few millimetres accuracy up to 100 metres either side of the vehicle. Image data is captured by a 360° camera simultaneously producing comprehensive, high accuracy data along any corridor.

The MLS system offers significantly increased levels of safety for operators compared to conventional surveying techniques as it enables operators to work safely from within their vehicle and does not require them to work outside during data collection.

SOFTWARE DEVELOPMENT
Since the company’s inception there has been a commitment to in-house software development, which has enabled a sustained level of innovation that differentiates the company from those services offered by competitors. These include:

- An intranet web based business management system that covers time recording, job costing and plan recording plus much more.
- Clearance tracking application for internal use but also with a client web access portal.
- MAPcogo, a co-ordinated geometry package developed to enable streamlined creation and management of Titles Office plans.
- Various data manipulation applications to handle simple to massive data conversion tasks.
- Automated job related email recording.
- Imageview – 360° image capture and viewing software.
- Laser scanning extraction tools.
- Job Management Systems.

REPRESENTATIVE PROJECTS
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- Various data manipulation applications to handle simple to massive data conversion tasks.
- Automated job related email recording.
- Imageview – 360° image capture and viewing software.
- Laser scanning extraction tools.
- Job Management Systems.

MNG’S FOCUS ON CUTTING EDGE TECHNOLOGY AND STATE OF THE ART 3D VISUALISATION HAS LED TO THE CREATION OF A FULLY FUNCTIONAL “HOLOGRAM STUDIO” AT OUR PERTH HEAD OFFICE.

The room allows clients and industry partners to walk through their respective infrastructure projects and be totally immersed in a 3D environment. The Hologram Studio takes pointcloud, graphically designed and engineered data and displays it in three dimensions via projection onto the walls and floor encompassing the hologram space. The objects and environments projected in the Hologram Studio are created artificially using architectural or engineered designs, which can be complemented with laser scanned pointcloud’s from the real world to form the most accurate representation for property developments and infrastructure projects.

INDUSTRY AWARDS
MNG has pioneered the use of the Mobile Laser Scanning (MLS) or LiDAR system. Developed in-house, the system was first implemented in 2010 in partnership with Main Roads Western Australia. The MLS system road alignment survey saw the company awarded the prestigious WA Spatial Excellence Overall Industry Award that (WASEA) in that same year as well as the Innovation and Commercialisation Award. In 2012, MNG was again awarded by WASEA in the Overall Industry and Infrastructure and Construction categories for MLS projects.
MNG BELIEVES IN ITS COMMITMENT TO COMMUNITY RELATIONS AND REGULARLY VOLUNTEERS SURVEYING SERVICES TO RURAL AND REMOTE COMMUNITIES.

Fundamental to our ongoing commitment to excellence is providing support to the communities in which we work. MNG has been involved in a range of activities that support the next generation of surveyors with their education and career development.

Underpinning all our work is our commitment to charitable donations, community spirit and the belief that we have something valuable to contribute to the communities we live and work in. MNG encourages employees, in their individual endeavours, to participate in a number of community and charity events.

We understand that business has a valuable role to play within the community and at MNG we aim to engage with our neighbours, employees, clients and our local authorities in innovative initiatives to make a real difference.

SAFETY

MNG has a planned and systematic approach to Health, Safety and Environment Management that focuses on eliminating all workplace injuries, illnesses and incidents to meet the Zero Harm objective through continuous improvement of practices and compliance with statutory obligations. MNG’s philosophy and adopted objectives are Certified as meeting the requirements of AS/NZS 4801:2001 for the activities of Surveying and Mapping Services.

The current certificate OHS 591267, issued by BSI Group, is valid until 1 March 2016. MNG has been Certified since 2013.

QUALITY

MNG has a planned and systematic approach to Quality Management that focuses on delivering project outcomes that meet or exceed expectations and are certified as meeting the requirements of AS/NZS ISO 9001:2008 for the activities of Survey and Mapping Services.

Certified since 1996, the current certificate FS 565311, issued by BSI Group, is valid until 7 October 2014.
mngsurvey.com.au

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