


# Managing Mining Tenure



Mining and Exploration companies turn to Landfolio to manage risk and ensure compliance in meeting the requirements and obligations for licenses in multiple jurisdictions.

## Using Landfolio for License Management

### CHALLENGE

When managing their tenure, mining and exploration companies must be mindful of regulations and obligations. Failure to comply with regulations, native title or joint venture obligations can lead to loss of tenure, investment and ultimately impact industry reputation.

### SOLUTION

Landfolio® software for natural resources, an enterprise land management solution. This solution provides global oversight into land assets, while streamlining the processes associated with related obligations, such as licensing, contracts, payments, renewals, etc. and simultaneously providing an audit record for compliance purposes.

### BENEFITS

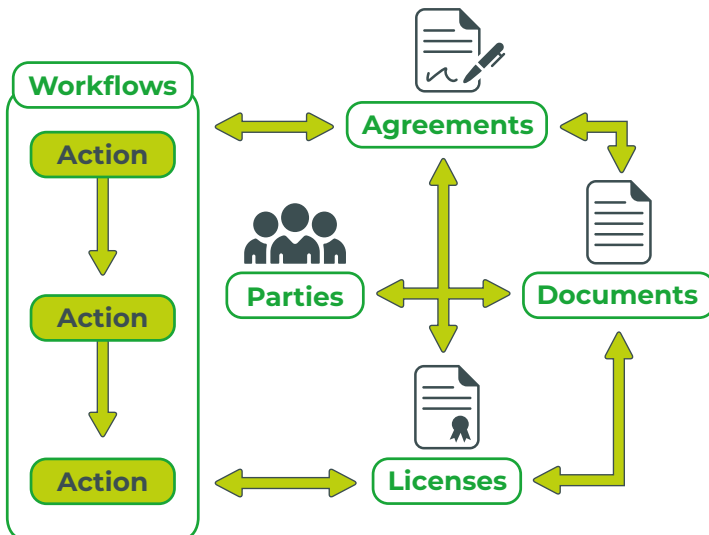
Mining and exploration companies achieve the following benefits by implementing Landfolio.

- ▶ Reduced risk associated with meeting requirements and managing obligations for licenses.
- ▶ Peace of mind that legislative and regulatory acts are complied with.
- ▶ Increased organizational efficiency by implementing uniform business processes and advanced authorizations.
- ▶ Saved time managing merger and acquisition processes.
- ▶ Information traceability with full audit / compliance history records.
- ▶ Extra competitive advantage by monitoring competitor activities, including new applications, license renewals, and expirations.

# About Landfolio

Landfolio software for natural resources is the leading workflow management solution that manages and automates key aspects of land and mineral rights management. Private and public organizations globally use Landfolio to manage their land-related business processes, obligations and compliance monitoring.

Leveraging the Esri® platform, this enterprise scale software solution provides full localization support and integrates key workflows, electronic approvals and notifications to ensure regulatory compliance and consistent internal processes across an organization.



## FEATURES

- ▶ Web portal for global oversight and reporting of land assets.
- ▶ Advanced task management and configurable workflows and business rules that reflect business processes.
- ▶ Supports interrelationships between licenses, agreements and projects.
- ▶ Actions that model the obligations over the life of a license such as payments, reports, renewals with associated due dates and responsible roles.
- ▶ Advanced GIS component enables map visualisation, selection, and validation of coordinates, restricted areas, minimum and maximum areas, and contiguity.
- ▶ Advanced, automated approvals set up for specified roles within the system.
- ▶ Escalating notification framework.
- ▶ Competitor intelligence and monitoring.
- ▶ Customised audits and reporting that is compliant with legislative requirements.

“**Landfolio is the premier software in the land management space.**”

Global Land Manager,  
Glencore

**GLENCORE**

## About Spatial Dimension

Spatial Dimension's Landfolio solutions automate and integrate land registries, cadastral mapping, and the permitting and licensing of land for governments and businesses worldwide. Spatial Dimension develops, implements and supports Landfolio customers with a fully configurable, scalable solution to help drive the efficient administration of land and its associated transactions, rights, and agreements. With teams in Australia, Brasil, Canada, South Africa and USA, and deployments in over 50 countries around the world, Spatial Dimension is your trusted partner to provide 'Commercial-off-the-shelf' (COTS) land management solutions.



# Oil and Gas Permitting Solution

Streamline management of onshore and offshore operations and ensure all regulatory and private stakeholder obligations are met with Landfolio for natural resources.

## Using Landfolio for Oil and Gas Permitting

### CHALLENGE

Maintaining important onshore and offshore permits and leases is crucial to the success for upstream and downstream businesses in the oil and gas sectors. It becomes an even greater challenge to manage those assets effectively and with minimal risk when complex commercial agreements exist between partners and stakeholders, where interests overlap, or where interests are severed by depth or geological information.

Failure to meet lease and permit obligations can potentially lead to the loss of important company assets and negatively impact the company's bottom line and reputation.

### SOLUTION

Landfolio® for natural resources is designed to help oil and gas companies efficiently manage all aspects of land tenure including upstream permits, related contracts, agreements and projects. Using a combination of workflows, electronic approvals, and escalating notifications, Landfolio for natural resources is highly configurable and helps extractive companies ensure all regulatory and private stakeholder obligations are met.

## BENEFITS

By incorporating Landfolio for natural resources into their business, oil and gas companies can:

- ▶ Protect against loss of interest or access to land assets and resources.
- ▶ Manage complex obligations across multiple regulatory frameworks and jurisdictions.
- ▶ Ensure corporate governance and reduce corporate risk with standardized business processes.
- ▶ Ensure legal and regulatory obligations are fulfilled on time and correctly.
- ▶ Ensure timely business decisions can be made with a central repository of all land tract, lease, and permit data that is accessible by relevant stakeholders.
- ▶ Meet all partner/customer obligations and ensure that rentals and royalties are correct and paid on time.

## FEATURES

- ▶ Manages and tracks legal processes, responsibilities and reporting for damages, compensation, and encroachments.
- ▶ Actions that model the obligations over the life of a license such as payments, reports, renewals with associated due dates and responsible roles.
- ▶ Manages conditions pertaining to commercial sales, operational leases and contracts.
- ▶ Complete inventory of wells and well units along with their associated production statistics are crucial building blocks for the establishment of working interests and revenues.
- ▶ Supports interrelationships between licenses, agreements and projects.
- ▶ Advanced GIS component enables map visualisation, selection, and validation of coordinates, restricted areas, minimum and maximum areas, contiguity and overlaps.
- ▶ Advanced, automated approvals set up for specified roles within the system.
- ▶ Escalating notification framework.
- ▶ View and generate reports on your land-related assets, including mineral and surface assets, and their respective agreements and obligations.

## About Landfolio


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# Agreement Management



Landfolio software for natural resources provides a repository for the inventory and storage of contractual agreements and the associated mineral licenses between mining companies and their partners.

## Managing Agreements using Landfolio

### CHALLENGE

Hand in hand with mineral rights management is the requirement to manage the commercial agreements and contracts that mining and exploration companies typically enter into with joint venture partners, royalty holders, government agencies, service companies and surface right owners. The terms and conditions of these agreements can be very complex and difficult to manage; the challenge is to ensure that these important legal obligations are met and the risks to key company assets are minimised.

### SOLUTION

A fully integrated approach to managing the agreements and tenure – Landfolio® software for natural resources – is the solution. Through the provision of an easy-to-use web interface, Landfolio provides commercial, legal and land teams with a common platform to administer important company assets and their respective legal terms and conditions.

From the initial negotiation stages of a confidentiality agreement, to managing the ongoing conditions and obligations for your joint venture, and any clauses surviving contract termination, Landfolio is the solution for effective administration of legal agreements.

## BENEFITS

Landfolio for natural resources offers the following benefits:

- ▶ Ensures legal obligations are met.
- ▶ Provides a reliable and up to date inventory of all legal agreements related to mineral rights management.
- ▶ Improves understanding and management of existing agreements.
- ▶ Improves internal governance and compliance for all legal agreements.
- ▶ Provides a secure and accessible document repository for signed agreements.
- ▶ Reduces conflicts of interest with business partners.
- ▶ Minimizes risks of loss of tenure.

## FEATURES

- ▶ Manage all types of agreements including:
  - ▶ Confidentiality Agreement
  - ▶ Joint Ventures
  - ▶ Share / Option Agreements
  - ▶ Royalties
  - ▶ Land Use Agreements
  - ▶ Service Agreements
  - ▶ Data Access Agreements
- ▶ A complete web portal for data management, reporting and task management.
- ▶ Support of interactions between agreements, tenure and projects.
- ▶ Schedule and track on-going agreement obligations.
- ▶ Escalating notification framework.
- ▶ Manage geographic extent and areas of interest.
- ▶ Simple to use document management capabilities.

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# Managing Indigenous Land Use Agreements (ILUA)



Landfolio provides an integrated approach for managing processes for indigenous land use agreements (ILUA).

## Managing ILUA Agreements using Landfolio

### CHALLENGE

Indigenous Land Use Agreements (ILUA) are voluntary agreements negotiated between a native title group and resource companies for the use and management of traditional land and waters. An ILUA provides a flexible approach to the management of land access and land use issues allowing parties to tailor the outcome to suit their circumstances.

Resource companies must find a way to effectively manage the negotiation process and subsequent outcomes / obligations of an Indigenous Land Use Agreement with Native Title groups. The agreement might include a provision for managing compensation for loss/impairment of native title and land access as well as define how Native Title rights coexist with the rights of others. Most importantly, the ILUA lays the foundation for a close working partnership. Quick, simple access to all of this information is pertinent for natural resource organizations to ensure all legal obligations are managed in an effective manner.

### SOLUTION

Landfolio® software for natural resource applications allows resource companies to manage the complete ILUA process using Landfolio's integrated contracts management functionality. From negotiations and registration all the way through to the long term conditions and obligations of the agreement, Landfolio schedules, notifies and tracks all on-going agreement decisions, meetings and obligations. It also provides a spatial-enabled system to view agreements in conjunction with your land or mineral tenure.

## BENEFITS

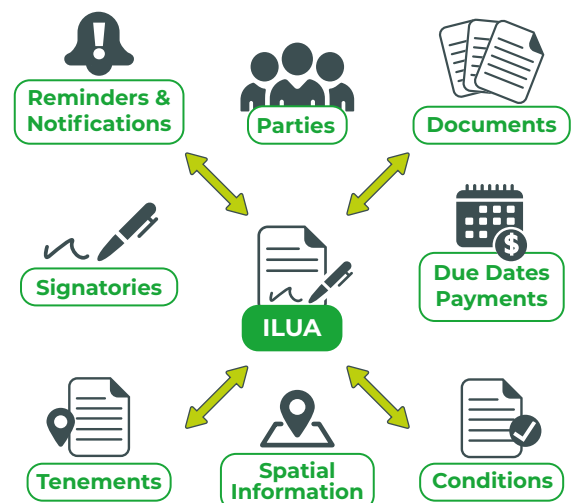
Landfolio provides the following benefits for managing ILUA agreements:

- ▶ Provides a fully integrated approach to managing the entire ILUA process.
- ▶ Ensures shared responsibility in the protection of land, fishing, and water processes via effective management strategies.
- ▶ Improves protection of Indigenous heritage and sustainability of Aboriginal culture.
- ▶ Improves social and economic outcomes for Indigenous people.
- ▶ Establishes formalized processes for the resolution of native title claims through negotiation, discussion and agreement-making.

## FEATURES

- ▶ Incorporate outcomes of the negotiation process.
- ▶ Manage communications between your organization, government agencies and Native Title Holders.
- ▶ Administer internal approval processes.
- ▶ Schedule and track on-going agreement obligations.
- ▶ Manage and calculate appropriate compensation.
- ▶ Display geographical extent of ILUA and associated native title claim areas and heritage sites.

## Integrated Agreement Management



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# Managing Unpatented Mining Claims in the U.S.

Manage and file large volumes of Unpatented Mining Claims in the United States with Landfolio software.

## Managing Claim Filing using Landfolio

### CHALLENGE

The volume of unpatented land claims as well as the severity of the implication for missing a filing represents significant risk to mining companies. The U.S. requires the submission of an annual affidavit on all actively held claims to both the Federal Bureau of Land Management (BLM) and the counties in which the claims are located. Claims in each of these Affidavit Groups can number in the thousands, and individual claims can fall into one or more counties. Failure to correctly file on each individual claim will result in the loss of that claim, without warning or notification from either the BLM or county. Furthermore, while the cost of filing on each claim is standardized at a Federal level, fees typically vary by county, even within the same state.

### SOLUTION

Landfolio® software for natural resource applications, an enterprise land management solution, provides a fully-managed annual claim filing process from planning and claim input through execution, ensuring that filings are submitted to the correct BLM offices and county recorders. Landfolio automates the calculation of annual claim filing fees; the creation of cover letters, affidavits, and exhibits; and approval processes for keeping and dropping groups of claims.

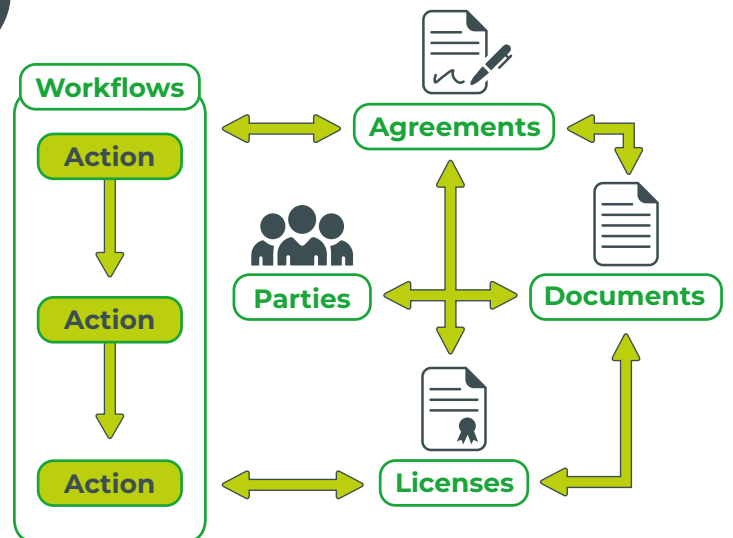
### BENEFITS

Mining companies in the U.S. achieve the following benefits by implementing Landfolio to manage their unpatented claims:

- ▶ Reduced risk associated with meeting claim filing requirements.
- ▶ Increased organizational efficiency by implementing automated business and approval processes.
- ▶ Maintain the accuracy and integrity of individual claim data.
- ▶ Peace of mind that the appropriate filings, including accompanying exhibits, are submitted to the correct BLM Offices and County Recorders on time.
- ▶ Ensure annual claim filing fees are accurately calculated.
- ▶ Information traceability with a full audit trail of the claim filing process.

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## FEATURES

- ▶ Facilitates the bulk loading and editing of claims and their associated spatial information.
- ▶ Configurable "Groups" allow for the establishment of relevant Affidavit Groups as containers for the lists of claims that are filed together.
- ▶ Parameter value functionality combined with the sophisticated business rule engine uses a combination of Map References and associated Parameter values to calculate total fees, on a per Affidavit Group basis, that need to be filed with the BLM and each individual County.
- ▶ Map Reference functionality tags claims to the Counties that they fall within, and the Affidavit Groups inherit these Map References from the related claims.
- ▶ Map References and Parameter Values are used to select the correct BLM and county addresses for the annual filings.
- ▶ Custom Reports are used to create client specific exhibits that conform to county filing rules.
- ▶ The Approval function can be used for the retention or disposal of large numbers of claims in bulk.
- ▶ The selection of individual claims and their associated Actions and Approvals can all be done from the configurable map interface.
- ▶ Alerts (Notifications or Reports) for the annual claim filing process are sent out at configurable time intervals.

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# Managing Damage Compensation Agreements



Landfolio manages all aspects of the damage compensation process for companies engaging in exploration and extractive activities that may have adverse social and environmental impacts.

## Landfolio for Compensation Management

### CHALLENGE

When exploration and extractive operations are initiated at a new site, the operating company must be aware of and effectively manage potentially adverse social and environmental impacts; this often includes properly compensating affected communities.

The direct impact of an operating mine or exploration activity can include damage to buildings and other structures, crops and livestock, and surrounding vegetation and water sources which communities utilize.

Compensation is often based on agreements negotiated between the concerned parties, typically the mining company and affected communities. Compensation procedures are designed to ensure a uniform, systematic, and timely method of recording, approving, and paying for damage to property. It is imperative that these companies follow these established procedures – and do so efficiently.

### SOLUTION

Landfolio® software, an enterprise land management solution, for natural resource applications manages all aspects of the damage compensation process, including assessments, valuations, surveys, and payments in a single integrated system. This solution also provides comprehensive searching and reporting capabilities on historic data and future obligations to improve business management, social obligations and community relations.

## BENEFITS

Landfolio provides the following benefits for managing the damage compensation process:

- ▶ Provides a uniform, systematic, and timely method of recording, approving, and compensating for damages to land, crops, trees, livestock, etc.
- ▶ Ensures process transparency, accountability, and improved financial control.
- ▶ Ensures that affected individuals are informed and participate fully in the process of receiving appropriate cash compensation.
- ▶ Improves record keeping and grievance management by establishing a searchable database of historic payments.
- ▶ Executes appropriate agreements with the local communities that include negotiated compensation rates.

## FEATURES

- ▶ Models processes relating to damage compensation agreements into workflows according to the company's specific internal procedures, negotiated agreements, and government regulations.
- ▶ Manages all relevant documents, reports and forms relating to the compensation agreement.
- ▶ Manages all tasks, within the given time frame, including scheduled meetings, surveys, payments, notifications, etc.
- ▶ Use integrated GIS mapping tools to provide precise localities for all aspects of the compensation agreement including area validations, resettlement plots, and graves.
- ▶ Manages payments and rates for the numerous items for which compensation is due.

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# Managing Community Resettlement



Efficiently manage all aspects of the relocation and resettlement of communities whose land has been acquired for extractive purposes with a single integrated solution.

## Community Resettlement using Landfolio

### CHALLENGE

When operations are initiated at a new mine site or when an existing mine footprint is extended, mining companies face numerous challenges involved with relocating and resettling affected communities.

Extractive companies must fairly compensate affected members of the community for loss of land or property. These companies must also ensure community members are successfully relocated and resettled and do not suffer any loss or reduction in livelihood or lifestyle. Resettlement may be to company-designated areas or housing or to other suitable locations agreed between the involved parties. Alternatively, affected individuals may be offered a settlement payment that allows them to purchase a new property elsewhere.

As a result, the extractive company needs to ensure appropriate processes are in place to accurately record and survey affected land and resettlement plots, calculate and pay out appropriate compensation, manage new housing construction, and track relocation status.

### SOLUTION

Landfolio® software for natural resources records and manages all aspects of the relocation and resettlement of local communities whose land has been acquired for mining or other extractive operations – in one single system. Implemented as a fully integrated community resettlement solution, Landfolio provides comprehensive searching and reporting capabilities on historic data and future obligations.

## BENEFITS

Landfolio for natural resources helps mining and other extractive companies:

- ▶ Conduct accurate spatial surveys and valuations of existing land and new resettlement plots.
- ▶ Ensure social obligations are fulfilled thereby improving the livelihoods of the communities while protecting the company's industry reputation.
- ▶ Efficiently manage the resettlement process, including pay out of transportation and accommodation allowances.
- ▶ Ensure tight financial control and budget forecasting.
- ▶ Maintain accurate records of historic payments and resettlement activities, which can be used for grievance management purposes.
- ▶ Manage the construction of new houses, including contractor details, contractor payments, house inspections and handover.

## FEATURES

- ▶ Model processes relating to relocation and resettlement compensation into workflows according to the extractive company's internal procedures and any agreements negotiated with local communities.
- ▶ Manage all tasks, within given time frames, including scheduled meetings, surveys, site visits, payments, and house construction.
- ▶ Use integrated GIS mapping tools to provide precise localities for all aspects of the resettlement process including the existing parcel, resettlement parcel, grave sites, gardens, etc.
- ▶ System-recorded decision management around individual resettlement election.
- ▶ Calculate resettlement entitlement and spatially track an individual's movements.
- ▶ Generate all relevant reports and forms used in the resettlement process.
- ▶ Establish a searchable database of historic payments for record keeping and grievance management purposes.

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# Leveraging Landfolio to Ensure MPRDA Compliance in South Africa



In South Africa, mining companies turn to Landfolio software for natural resources management to ensure compliance with their MPRDA obligations and mitigate their risks.

## Managing MPRDA Obligations Using Landfolio

### CHALLENGE

Companies mining or prospecting in South Africa must comply with the Mineral and Petroleum Resources Development Act (MPRDA) and corresponding regulatory obligations. The act makes provision for equitable access to and sustainable development of South Africa's mineral and petroleum resources. Failure to meet any of the financial, reporting or other requirements can result in penalties and/or loss of tenure. Therefore, these mining companies must secure all mineral assets and ensure all obligations are met in accordance with the MPRDA.

### SOLUTION

Landfolio® software for natural resources can be configured to manage all processes required to meet regulatory obligations, thus ensuring compliance with the MPRDA. Landfolio provides an integrated solution to help mining companies manage the complete application, granting, maintenance, renewal and closure phase of prospecting and mining rights and their associated agreements. The system mitigates risks by scheduling, notifying and tracking ongoing obligations, reporting requirements and payments.



## BENEFITS

Landfolio provides the following benefits:

- ▶ Improves risk mitigation using an early warning system to ensure that all obligations are met.
- ▶ Improves governance and compliance with mining laws and regulations.
- ▶ Provides a secure and accessible data and document repository for all correspondence, reports, agreements and contracts relating to the management of land related assets.
- ▶ Increases transparency and accountability.

## FEATURES

- ▶ Configure workflows for all internal company processes in addition to the MPRDA jurisdictional requirements.
- ▶ Assign responsibility and accountability to specified users.
- ▶ Generate high level reports for budget forecasts, statuses and upcoming obligations.
- ▶ Full audit trail.
- ▶ Improve governance and compliance using standard procedures and defined business rules.
- ▶ Integrate with existing enterprise systems and data.

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***Any company battling with the complexities of the MPRDA in South Africa will do themselves a huge favour by investing in the professional and easy to use (Landfolio) system.***

Contractor,  
Impala Platinum



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# Extractive Industries Transparency Initiative (EITI) Reporting



Landfolio software facilitates the provision of data for EITI Reports by government agencies and promotes best practices in EITI Reporting.

## Using Landfolio to Facilitate EITI Reporting

### CHALLENGE

The Extractive Industries Transparency Initiative (EITI) has developed a Global Standard that promotes transparency and improved governance in a country's extractives sector, ensuring local citizens benefit from extractive activities. The EITI Standard, published in 2013 ([www.eiti.org](http://www.eiti.org)), provides detailed guidelines for a country to achieve and maintain EITI Compliance. The EITI Report publishes payments disclosed by companies and revenues received by governments following reconciliation led by an independent Administrator and overseen by a Multi-Stakeholder Group (MSG) composed of members from civil society, corporations, and government.

As a result, government agencies must compile comprehensive, detailed data for EITI reports, including data on revenue streams, commodity reporting, contract disclosures, license ownership, and more. They also need to report by payment type, company and government agency, and project. This can be a timely, inefficient process for government agencies without an advanced system in place.

### SOLUTION

Landfolio® software for natural resource applications provides advanced reporting and data extraction functionality to facilitate the provision of data for EITI reports. The software facilitates concession and tenure reporting, revenue stream reporting, contract and agreement reporting, and disaggregated data.

### BENEFITS

When used to facilitate EITI reporting, Landfolio offers the following benefits to government agencies:

- ▶ Simplifies access to actualized revenue and related data.
- ▶ Promotes best practices in EITI reporting.
- ▶ Saves on data compilation time and resources.
- ▶ Restores public trust.
- ▶ Increases sector revenues and stimulates investment.
- ▶ Simplifies generation of customized reports for EITI reporting.

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### FEATURES

- ▶ Concession and tenure reporting including license holders, license area coordinates, application dates, granting dates, duration of license and commodities.
- ▶ Revenue stream reporting including royalties, dividends, bonuses, license fees, rental fees etc.
- ▶ Contract and agreement reporting, including beneficial ownership through shareholding functionality, and conditions (obligations).
- ▶ Facilitates the disaggregation of data by payment type, commodity, by company and Government agency (Mining Cadastre), and by project, if required.



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# e-Government for Mining



## e-Government Mining Cadastre Portals

### CHALLENGE

The management of mineral rights can be a time and resource intensive activity, particularly when processes are manual and / or paper-based. Government agencies working with an abundance of extractive industry stakeholders require a solution to efficiently communicate with stakeholders in a timely, transparent manner, while also making mining cadastre information available to investors.

### SOLUTION

The e-Government Mining Cadastre Portal is a secure, web-based, e-Government system through which companies and individuals are able to administer their mineral rights online. These solutions allow all registered stakeholders to interact directly with the Government to undertake activities such as the submission of new applications, online payments, uploading of statutory reports, undertaking renewals, transfers and relinquishments. Also available are Mining Cadastre Map Portals, which provide a spatial view into the mining cadastre data. When coupled with Landfolio® software for natural resource applications as the government's back-office mining cadastre system, the e-Government for Mining solution takes the management of mineral rights to the next level.

### BENEFITS

There are significant benefits of Landfolio e-Government Portal for Mining solution for both government agencies and their industry stakeholders.

#### Industry Benefits

e-Gov for Mining benefits a country's extractives industry by providing a transparent channel for communication between the government and its stakeholders.

- ▶ Real-time access to live cadastre information.
- ▶ Spatial validation of license applications online.
- ▶ Payments made via a secure payment gateway directly to the government.
- ▶ Notification reminders sent out to license holders via email or SMS.

#### Government Benefits

An e-Government Portal for Mining solution operates in conjunction with the Landfolio software to manage compliance for the complete mining license life-cycle. The e-Government solutions have the ability to improve these processes by:

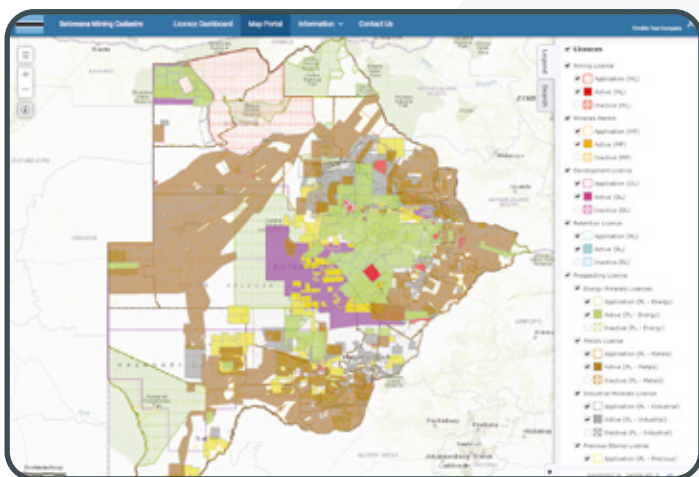
- ▶ Enabling greater efficiency through the reduction of paper-based submissions.
- ▶ Simplifying revenue collection through an easy to use, secure payment gateway.
- ▶ Streamlining processes to reduce application waiting periods.
- ▶ Providing cadastre office staff with time to focus on other value-added services.

# About Landfolio

Landfolio software is the leading workflow management software suite that automates and integrates key aspects of land and mineral rights management. Private and public organizations globally use Landfolio for natural resources to manage their land-related business processes, obligations and compliance monitoring. Built on the Esri® platform and other industry-leading databases, this enterprise scale software solution is easily localized and integrates key workflows, electronic approvals and notifications to ensure regulatory compliance and consistent internal processes across an organization.

## FEATURES

- ▶ View details of your tenure portfolio.
- ▶ Details include key dates, status, obligations, coordinates and a map.
- ▶ Submit license applications, renewals, surrenders, and ownership transfers.
- ▶ Submit reports and other required documentation.
- ▶ Receive notifications via email and SMS.
- ▶ View and pay all mandatory fees online by:
  - ▶ Major credit cards including MasterCard and Visa
  - ▶ Mobile Money
  - ▶ EFT



*The availability of the Landfolio system is key to the development of the Nation and it's implementation has placed the nation at an advantage. The Landfolio team has a reputation in the market as per their track record.*

*Implementing the system was straight forward, and users have not struggled to adopt it. Customers have loved the software which is my paramount concern with the Country at large. It has resolved a lot of operations and functions.*

Manager,  
Botswana Geoscience Institute (BGI)



## About Spatial Dimension

Spatial Dimension's Landfolio solutions automate and integrate land registries, cadastral mapping, and the permitting and licensing of land for governments and businesses worldwide. Spatial Dimension develops, implements and supports Landfolio customers with a fully configurable, scalable solution to help drive the efficient administration of land and its associated transactions, rights, and agreements. With teams in Australia, Brasil, Canada, South Africa and USA, and deployments in over 50 countries around the world, Spatial Dimension is your trusted partner to provide 'Commercial-off-the-shelf' (COTS) land management solutions.



# Ministry of Natural Resources and Immigration – Government of Belize



## LAND REGISTRATION FRAMEWORK

### BELIZE TENURE SYSTEMS:

Land Registration Act – Torrens

**There are currently 126,360 parcels registered under the Land Registration Act.**

The Land Registration Act is a property registration statute with properties displayed and identified according to a unique Parcel Identification Number (PIN).

Certificates Of Title – Not Torrens

**Currently 2,659 properties with a Certificate of Title.**

Certificates of Title are part of the General Registry ownership records. This includes both First Certificates of Title and Transfer Certificates of Title.

*Governed by the General Registry Act and Law of Property Act.*

Common Law Conveyance (Deeds)

**There are currently 20,776 deeds under the common law system.**

*Governed by the General Registry Act and Law of Property Act.*

## Key Facts



Programme cost

**USD \$2,125,000**



Employees impacted

**350+**



Number of users

**220 internal users – 50+ daily 'walkup' users to public kiosks**



Customers

**Citizens, real estate investors, land surveyors, land lawyers, lending institutions, government ministries and agencies**

# OVERVIEW

## Belize land reform programme – 2006 and 2013

The Landfolio team began working in Belize in 2006 to develop and implement a land information system. Landfolio was implemented to automate and integrate Belize's public land records and cadastral maps in the Surveys and Mapping, Valuation and Land Registry Departments, under a single software platform. The Landfolio team then expanded its solution to the departments of Physical Planning, National Estates, and Inland Revenue, as well as to six district offices located throughout the country.



## CHALLENGES

1

The land tenure clarification activities generated additional work for Land Registry in terms of maintaining records and providing various services to the public. Land Registry didn't have the capacity to handle the increased workload derived from the urban adjudication activities, as well as managing the new business processes and procedures of the land administration environment implementation (Landfolio). This meant that the Ministry of Natural Resources and Immigration needed to hire more staff but as budget resources were not readily available, this took additional time.

2

The client had not anticipated from the onset of the project, that ongoing capacity development and staff training was needed. This meant that a rigorous and repeated training programme was required. The work ethic of some of the staff was lacklustre, and there was very little accountability by the supervisory team. As such, participation in the training curriculum provided by the Landfolio Team was sporadic. This had a negative impact on the speed with which the solution was integrated into the daily operations. The client did instigate management changes which provided much-needed structure and oversight, however, this did not occur until late in the project lifecycle.

3

The corruption within the Survey and Mapping Department was pervasive and some of the staff found the new system and incorporated controls to be an unwanted obstacle in their activities, and as such focused on how to prevent its implementation. This internal divisiveness was not addressed until the management change within the Ministry.

## OUTCOMES

The Landfolio Team worked with the client's existing team to support them in operating the system and scheduled additional on-site time to assist the client in the day-to-day operations. As the client's team expanded the amount of time required on-site by the Landfolio Team was reduced as confidence and capacity in the system increased

The Landfolio Team worked with the client and the Inter-American Development Bank to source and allocate additional funds for supplementary training. To deliver the training cost effectively and to embed greater sustainability, the Landfolio Team revised the original training approach to include a train-the-trainer programme. This resulted in "super-users" who provided training and also Tier 1 support to the user community – both of which increased confidence in the system. The addition of supplemental resources also provided the Ministry with the opportunity to re-vamp the workflow strategy within the Department. The Landfolio Team also worked with the Ministry to create specialised work groups with knowledge of particular aspects of the land administration business. This has been one of the most impactful reorganizational efforts and has led to the ability to deliver simple title transactions in as little as three days.

The Landfolio Team worked with the Ministry to further enhance security of the data, the system and the overall operational environment so as to prevent manipulation of the system. By leveraging the Landfolio environment, audit reports were easily created which identified the actions of particular users and/or system administrators. This facilitated Ministry decisions to remediate the points of corruption. Additionally, the Landfolio Team helped prepare "Procedures Manuals" to create a standard for utilising the system appropriately.



# PROJECT OUTCOMES:

- 1** The successful implementation of an integrated land tenure system that provides a managed workflow environment for all lands in Belize.
- 2** A reduction in the average time to register a property transaction in the Land Registry, from 39 days to five days.
- 3** A reduction in the average time to add a parcel or complete a parcel mutation in the Survey and Mapping Section, from 28 working days to seven days.
- 4** Standardising the Parcel Identification Number allowed for data to be integrated among the three departments. This facilitated data cleanup and remediation – a direct contributor to achieving the outcomes described above.
- 5** **70% increase** in 'out-of-district' customer transactions.
- 6** **72% increase** in annual revenue generated from MNRA land fees and taxes.

## CHALLENGES

**4** The parcel data that was created under a separate contract (not managed by the Landfolio Team) was found to contain errors – in some instances the data was in positional error by several metres. This delayed the integration of the numerous data sets to the parcel.

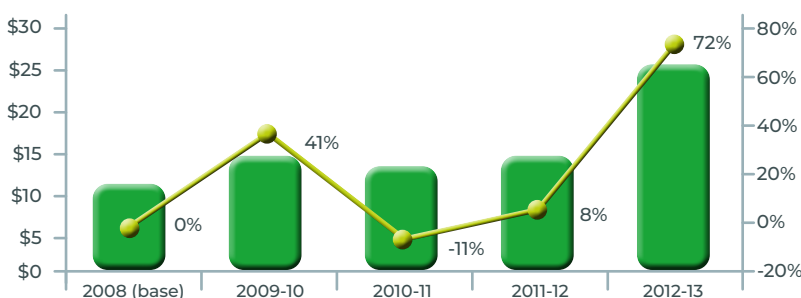
**5** The ICT infrastructure was inadequate to support the 200+ users that were accessing the system. The Ministry elected to utilise a local contractor for the system implementation and did not follow the specifications provided by the the Landfolio Team. This resulted in an under-sized environment being installed. The challenge for the Ministry and the Landfolio Team was that users' perceptions were that "Landfolio isn't working", when in reality the issues were ICT-related.

## OUTCOMES

The Landfolio Team provided parcel-correction / remediation through field survey combined with least squares adjustment, to the newly acquired orthophotography, and updated the parcel identification numbers (PINs) on each parcel. This then served as the primary link to the parcel throughout the database.

The Landfolio Team worked with the Ministry and the Inter-American Development Bank to re-vamp the ICT environment. The Bank provided additional funds to the Ministry to upgrade its technology and communications framework which alleviated the bottlenecks. Additionally, the Landfolio Team worked with the Ministry to develop a system maintenance strategy to provide the environment with regularised upgrades and enhancements through planned budgeting.

# Final Evaluation Report



**There is evidence of a significant increase in revenue generation as a result of the introduction of Landfolio in general and the latest deployment of the system.**

**Revenue Generation during Landfolio implementation period for 2013.**

# KEY INSIGHTS & LESSONS LEARNED

- 1** Regardless of the size of the project, politics will have an impact. This could be a result of legislative changes, elections, intragovernmental rivalries or other related issues. Whilst difficult to predict and/or identify, they should be included in the project risk profile.
- 2** Data quality, availability and accessibility can significantly impact a project – not only from a cost perspective, but also from a project management/timeline perspective. It is important not to underestimate the level of effort that will be required to remediate, integrate and/or ingest the various and often diverse datasets that are held by the client.
- 3** The business process analysis and requirements gathering is not just about technology and software workflows. It is important to learn “why” things are done in a particular way or “why” a change is being implemented. Therefore, the inclusion of a diverse team of subject matter experts (both hardware and software skilled) ensures that all aspects of a client’s requirements are identified early in the project lifecycle and incorporated into the strategy and the delivered solution.

## CLIENT BENEFITS:

- ▶ A fully functional and integrated national land administration environment was developed.
- ▶ 1.6 million private and public paper land records converted to digital; mapped parcels linked to the correct land titles/deeds.
- ▶ Increased efficiency of land transaction processing.
- ▶ Significant expansion of the national tax base.
- ▶ All existing land records now scanned, indexed, geo-referenced (as appropriate) and linked to their corresponding parcels and/or legal instruments.
- ▶ A reduction in the time taken to conduct a land transaction.
- ▶ Greater security of land records thanks to a digital archive and off-site disaster recovery plan.
- ▶ **Rural land holders of more than 16,000 parcels received secure ownership titles for the first time.**
- ▶ 7,000 rural parcels were surveyed and declared as registration sections (areas where it is mandatory to register land transactions).
- ▶ The broader land reform agenda was supported by the production of community land use plans, delineation of village boundaries and public consultations on key policy areas.

## About Spatial Dimension

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