

Landfolio - *Success Stories*

Success story | Strengthening of Mineral Cadastre Management System, Laos PDR



Organisation
Ministry of Energy and Mines

Country
Laos PDR

Industry
Government / Mining

Products and services
Mineral Cadastre Management System

End date
31/12/2019

Scope

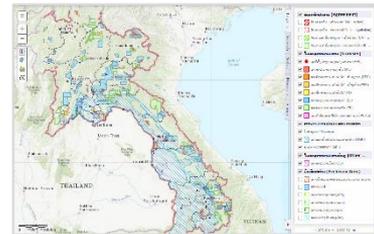
- The key development objective was to strengthen and increase human resources capacity and improve the performance of Government oversight institutions for the hydropower and mining sectors.
- To support implementation of the new laws, regulations, and taxation instruments by the relevant sector agencies.
- Reinforce the mine cadastre and mine title registry functions of the Department of Mines (DOM), specifically to provide the hardware and software required to transition from the present coordinate reporting system to a block reporting system.
- Design of the modern web based custom mineral registry and cadastre system and development its special application software
- Provision of capacity building and training services.

Impact

- Establishing procedures which require the designated authority to issue the appropriate mineral title to a qualified applicant with processes configured to exact needs of the Lao PDR Mining Law and Regulations
- Significant reduction in time to process and validate applications and renewals
- Facilitates maximum revenue collection from the minerals sector
- Provide data inputs to facilitates Extractive Industries Transparency Initiative (EITI) reporting

Client Challenges

- Licensing processes were the responsibility of multiple Departments and Divisions within the Ministry of Energy and Mines, creating delays in issuing and administration of licenses.
- Disparate, inconsistent digital and hardcopy data sources spread across multiple offices
- Practical implementation of a block-based framework as declared in the Ministerial Agreement 0212MEM (25 Feb 2013).
- Lack of transparency in the management of licenses and concession agreements
- The Ministry required a new system which could be implemented in Laos language
- To ensure the long-term sustainability of the solution, it was important for vendor to provide professional training and capacity building services, delivered in Laos language



Success story | Mineral Cadastre Database Management System Ethiopia



Federal Democratic Republic of Ethiopia
Ministry of Mines and Petroleum

Organisation
Ministry of Mines and Petroleum

Country
Federal Republic of Ethiopia

Industry
Government / Mining

Products and services
Mining Cadastre e-Government Solution

End date
31/12/2019

Scope

- The project was designed to strengthen the capacity and organizational management of Ethiopia's Ministry of Mines, Petroleum (MoMP) and Geological Survey of Ethiopia (GSE) at operational and strategic levels.
- The project's overall objectives are to improve resource governance and support the long-term management of a sustainable mining sector in Ethiopia.
- Implemented in partnership with the Canadian International Resources and Development Institute (CIRDI)

Impact

- Establishment of a consistent, predictable and transparent mineral licensing system, norms, standards and leading practices
- Development of inclusive stakeholder-responsive frameworks, structures and processes
- Provides world-class geoscience information and promotes priority industrial minerals services
- Enhance project management to support collaboration, monitoring and coordination of resources for sustainable results

Client Challenges

- Integrating flexibility, interactivity and transparency was needed to ensure the success of the project design and implementation
- Identification and consolidation of existing planning and M&E processes to avoid duplication and disconnection from country targets and desired results
- Mapping to ensure inclusive strategies and implementation buy-in from all key stakeholders
- Accommodating variations in fees and obligations across Ethiopia's Federal System and Autonomous Regions
- Data Consolidation & Import Risks due to poor or in-existent data capture in Regions
- Administration of Licenses at Ministerial or Regional level depended on whether the Investor is Foreign or Local, as well as the nature of the commodity. This impacted on allocating role responsibilities.
- Ethiopia is a Multi-Lingual Country; hence training was given by native speakers.
- Poor infrastructure in some Regions.



Success story | Upgrade of Mining Cadastre and Registry to an E-Government System Uganda



Organisation
Ministry of Mines and Petroleum

Country
Federal Republic of Ethiopia

Industry
Government / Mining

Products and services
Mining Cadastre e-Government Solution

End date
31/12/2019



Scope

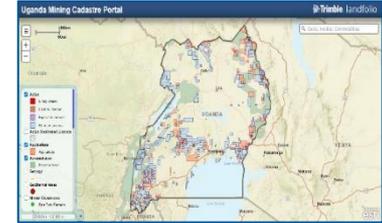
- Uganda had successfully implemented the Landfolio the Back-Office System for the Management of its Mineral Rights in an earlier phase.
- Changes in technology and emerging issues in the mineral sector & industry such as the need for online transactions, a one-stop shop and scalability to the regional offices encouraged the Ministry to upgrade the initial system to an e-government system of mineral rights administration.

Impact

- Reduction in application times through acceptance of online license applications
- Increased efficiency through acceptance of online payments and reports
- Applicants can monitor the status of their licenses directly thus providing for greater transparency
- Licensing officers can optimize their time
- Encourages investment and transparency

Client Challenges

- Operational Mining Cadastre and Registry System conforming to international standards of E-government Portal requirements and capable of handling all online transactions
- Manage the end-to-end business processes for the entire license lifecycle, ensuring compliance and revenue collections throughout the licensing process.
- Regulations took very long to be updated so that it allowed online transactions, this extended the project timeline significantly.
- Developing a payment gateway with insufficient technical information.
- Encouraging the investors to trust the online platform



Success story | Crown Land Information Platform, Victoria, Australia

Organisation

Victoria State Government,
Department of Environment, Land,
Water and Planning

Country

Australia

Industry

Government, Land Management

Products and services

Crown Land Management and e-
Government Kiosk development

End date

30/08/2020



Scope

- CLIP was a 3 Year Project to modernise the IT systems used for Crown Land Administration in the state of Victoria. The key project objective was to replace outdated technology and unsupported systems with a modern, web-based configurable 'commercial off the shelf' land management solution. The project scope included:
 - Configuration Trimble Landfolio to cater for the state's unique land management model for more than 85 land assets types and 60+ workflows for license, lease, reserve and land sales management
 - Migration of over 300,000 land records
 - Training and support of staff across the State
 - Develop custom integrations for ECM; Victorian Online Titles System; VicMap; and Oracle Financial

Impact

- Three unsupported, bespoke systems, replaced with a single, integrated land management platform
- The web-based, GIS enabled, land management solution presents a single version of data truth to internal and external stakeholders across the State.
- External 'Committees of Management' are for the first time able to administer their Crown Land Reserves online

Client Challenges

- The legacy systems were heavily reliant upon manual processes, hardcopy files and had little integration to GIS and other internal platforms.
- Inefficient processes for 'Committees of Management' to self-administer land reserves for which they were responsible.
- Lack of standard business processes between Headquarters in Melbourne and the various regional offices.
- The unsupported legacy systems required re-coding when government regulations changed and did not offer client-side administration wizards to update system configuration to accommodate the revised regulations.
- Difficult to generate reports or easily extract data from the legacy systems.



Success story | Nevada Gold Mines – Water Rights Management



Organisation

Nevada Gold Mines

Country

United States

Industry

Natural Resource Management

Products and services

Water rights management

End date

Dec. 31, 2020

Scope

- Nevada Gold Mines (NGM) objective was to integrate NGM's land and mineral rights management system with their water rights permit tracking system into a single environment to concurrently track all business records, obligations and relationships.
- Landfolio was configured to manage the full life-cycle of NGM's water rights permitting process, from the initial application phase, to certification, and then managing the ongoing obligations.
- Landfolio's spatial capabilities were used to track the location of diversions and how they relate to larger permit blocks, project areas, and managed properties overlapping with other owners and mineral interests.

Impact

- Two unsupported, bespoke systems, replaced with a single, integrated land and water rights management platform
- Custom reports and notifications now allow staff to keep track of permit obligations and other required actions.
- Integration with state water resource permitting system provides a link to statewide management system.
- Location based tracking of diversion records tied together with patented and unpatented claims data and other ownership information.

Client Challenges

- The legacy database systems were reliant on spreadsheets, manual processes, and hardcopy files which were disconnected from the spatial data and other internally managed data.
- Integrating documents and other supporting information required configuring and migrating to a Sharepoint document management system.
- **Trimble Landfolio** established a process to track work between NGM and third-party contractors via roles, authorizations, reports, and notifications.
- The previous legacy database system was difficult to generate reports from or easily extract data.
- Filing for and tracking such items as 'proof of beneficial use', completion and extensions can be drawn out and complex. **Landfolio** manages and helps track all the steps, which in some cases, can take years to come together.



Success story | Department of Lands & Surveys - Government of Anguilla



Organisation
Government of Anguilla

Country
Anguilla

Industry
Land Administration

Products and services
Land Management

End date
Dec. 31, 2020

Scope

- Anguilla's land administration system had remained largely unchanged since 1974. Following Hurricane Irma in 2017 the Department of Lands and Surveys (DLS) identified the existing paper-based system as a major risk, which needed to be updated with a modern, secure and transparent land management solution.
- Through the implementation of a new land system the Anguillan Government also aimed to enhance its internally generated revenue through strengthened land administration capabilities.

Impact

- Greater security of land records as a result of the digitization of paper documents and offshore backup of Landfolio database
- Landfolio's full audit history across all land transactions has increased transparency, and public confidence in Anguilla's land information.
- Provision of the Landfolio e-Government Portal has improved the ease of doing business via online transactions and access to records and digital workflows.
- Increased lease and license compliance as a result of enhanced monitoring and enforcement capabilities.
- Improved quality of information available for planning, disaster relief, taxation compliance, security, agriculture, and health.
- The DLS can now quickly view and report on statistical information, revenues collected, track activities and work rates of each employee.

Client Challenges

- The Government of Anguilla required access to a secure, auditable, single source of truth for land information across all departments and ministries.
- The DLS had difficulties tracking, monitoring, and reporting on its transactions and activities.
- The DLS needed to provide improved access and customer service to the citizens and investors in Anguilla.
- The ability to increase internally generated revenue from land was limited as a reliable, digital land inventory was unavailable for searching and analysis.



Success story | Rio Tinto Exploration – Global Mineral Rights and Agreement Management

RioTinto

Organisation

Rio Tinto Exploration

Country

Global

Industry

Natural Resource Management

Products and services

Mineral rights and agreement management

End date

Project extension for Chile in progress

Scope

- Rio Tinto Exploration first engaged Spatial Dimension in 2006 to implement a mineral rights and agreements solution for their EMEA Region.
- The primary objective of the project was to integrate the mineral rights from multiple jurisdictions and associated legal agreements such as Joint Ventures, Royalty, Confidentiality, Option and Service agreements into a single system to improve visibility and management oversight of these important company assets.
- Following the successful rollout across EMEA, RTX then decided to expand the system for use across jurisdictions in APAC, SAM and NAM regions (currently around 60 countries)

Impact

- Multiple, unsupported, legacy systems across various jurisdictions have been replaced with a single, integrated mineral rights and agreement management platform.
- Staff in regional offices benefit a system designed to cater for their local regulatory requirements while at the same utilizing a common, global application which allows ease of reporting to HQ.
- Landfolio's fully integrated ArcGIS Server environment has enabled the business to share and consume geospatial exploration information across offices and regions.
- RTX have also leveraged various optional modules such as language packs, competitor monitoring tools and the SharePoint Connector to increase the ROI across the business.

Client Challenges

- Multiple offices, across multiple regions and jurisdictions were operating in silos without adherence to internal process and governance.
- Existing data was at risk as it being managed in a variety of flat files or often small, bespoke systems that were unsupported.
- Commercial Managers operating across multiple jurisdictions often had difficulty in accessing a single source of truth for current mineral rights information.
- Standard reporting to head office remained difficult and time consuming until a common application was made available.
- Operating in the mineral exploration sector, some regional offices did not have sufficient local IT resources or infrastructure to setup an on-premise system, which has now been alleviated through the implementation of Landfolio on a company managed cloud server and accessible to local users over an internal network.



Success story | Anglo American Platinum – Mineral Rights and Property Management

Organisation

Anglo American Platinum

Country

South Africa

Industry

Natural Resource Management

Products and services

Mineral rights and agreement management

End date

October 2021

Scope

- Anglo American Platinum implemented Landfolio to manage their mineral rights in 2010
- They have also leveraged Landfolio to successfully manage their extensive property portfolio
- Custom workflows have been designed to cater for various property processes including, consolidations, donations, purchases, sales, subdivisions, rezoning and township establishment.
- Business and commercial leases are tracked from the acquisition phase to the maintenance (conditions and commitments), renewals, extensions, and reviews.
- Agreements relating to Relocation and Settlements with local communities and stakeholders (Master Agreements and MOU's) are stored in Landfolio and linked to the other assets.

Impact

- Anglo Platinum have significantly streamlined their mineral and property management and governance by implementing Landfolio.
- They have reduced their compliance risk by implementing custom workflows that timeously notify key stakeholders of upcoming requirements in order to comply with the requirements set out in the South African Mineral and Petroleum Resources Development Act (MPRDA) Regulations.

Client Challenges

- Managing and updating their extensive property portfolio, including farm portions, erven and sectional title units they own, or are owned by 3rd Parties.
- Existing data was at risk as it being managed in a variety of flat files which were not centrally available to other stakeholders or backed-up securely.
- Mineral rights are often linked to farms and farm portions and this spatial view was not available with the information residing in separate systems.
- Some information was managed centrally at Head Office while other information was managed at the mine site, so a single source of truth for current mineral rights information was not readily available.
- Reporting was time consuming as the information was stored in different files or systems and took time to collate.



Success story | Lundin Mining Global – Multiple Rights Management

Organisation

Lundin Mining

Country

Brasil, Chile, Portugal, Sweden and United States

Industry

Natural Resource Management

Products and services

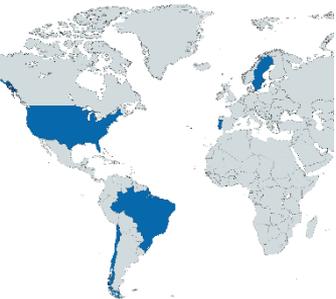
Mineral rights management

Surface rights management

Water rights management

End date

Dec. 31, 2020



Scope

- Lundin Mining objective was to standardize the information regarding its multiple assets across different Business Units to Corporate
- Respect jurisdiction's particularity, needs and assets type management and local governance while matching the global governance
- In a single framework, configure to manage mineral rights, water rights, land permits full-cycle, meaning from the initial application phase, to certification, registration and ongoing obligations

Impact

- Full integration of local data, where a single system cater many different permits
- Improvement of analysis and decision-making once a single folio is linked to different permits, respective spatial views and digitalized documentation. For instance, when selecting a Mineral Right, is possible to view the related Surface Permit, Water Permit, and other agreements
- Custom reports sent to internal stakeholders and Corporate, allowing planning, budget forecast and allocation
- Accountability through definition of roles and scalable notifications to each responsible staff to keep track of all obligations
- Though implementation could be done in a single instance, business decision was to dedicate a hosted server for each region. In near future, all instances will be connected to a single Dashboard, where real-time data will be updated and improve even more reportability

Client Challenges

- Each Business Unit had a unique management style, mostly reliant in spreadsheets, files stored solely at the responsible's computer, hardcopy files and maps or other information disconnected from significant data
- Difficulties to keep track on obligations, specially to report them to Corporate and make decisions on budget, effort and time allocations
- Presence in more complicated environments to manage Mineral Rights such as Chile, where legislation is complex, and demand is high. To facilitate, **Landfolio** developed a specific tool to monitor Mineral Rights application decisions and competitors, therefore managers can rely that system is automatically following-up and rest on only making decisions
- In Portugal, manage Surface properties – specially tax payments – are extremely important and should be coordinated with Mineral Rights. There wasn't the best understanding between respective area responsible. With a single system, coordination and reporting to Corporate are natural and automated
- Land Managers in Brazil must keep track of National Gazette daily to check if there's been any changes on MRs. With a specific **Landfolio** module and a subscription at data provider, the system automatically follows-up and land managers will receive the updates of their own licenses and are able to focus on developing other activities

lundin mining



Success story | Kwanlin Dün First Nation Land Registry, Yukon, Canada



Organisation

The Heritage Lands and Resources Department within Kwanlin Dün First Nation

Country
Canada

Industry
Government, Land Management

Products and services
Land Management System for Traditional Territory

End date
19/10/2020

Scope

- KDFN owns 264 different Settlement Land Parcels within its Traditional Territory totalling over 1042 km² of land. The key driver for this project was the impending implementation of the *Lands Act*. Due to this, the project scope included:
- Configuring Landfolio to create a KDFN Land Registry for their Settlement Land Data including Settlement Land Parcels, Internal Patterns & Lots, Historical Submissions and all Agreements for land within its Traditional Territory.
- To use the Land Registry as an opportunity to standardise the processes of managing these through common processes and in relation to the new legislation.
- Training and supporting the HLR staff for use of the new KDFN Land Registry.

Impact

- The KDFN Land Registry will clearly lead to a reduction in times to process and validate applications relating to KDFN lands.
- The web-based, GIS enabled, land management solution presents a single version of data truth to the HLR team and KDFN members.
- This project exhibits potential to demonstrate the benefits of an up-to-date, web-based land management solution to other Canadian First Nations.

Client Challenges

- Inherent and/or institutional knowledge of Historical Submissions of KDFN land did not readily translate into an electronic record for ease of use and understanding.
- The previous approaches to the management of KDFN lands were very manual processes with no direct integration to GIS.
- Inconsistent digital and hardcopy data sources divided amongst the HLR Department did not result in an immediate or accurate source of data truth.
- Changes to legislation ultimately forced an urgent need for an electronic Land Registry.
- Encouraging an immediate buy-in and trust of the new KDFN Land Registry.



Success story | Origin Energy, Australia



Organisation
Origin Energy

Country
Australia

Industry
Oil & Gas, Energy, Land Management

Products and services
Landfolio

End date
01/02/2016



Scope

- Spatial Dimension was awarded the tender by Origin Energy in 2015 to implement a Tenure Management System (TMS) to manage tenures, land assets, and related agreements for onshore and offshore assets across Australia and New Zealand.
- The goal of the new project was to implement a modern, workflow driven, tenure management solution to replace an outdated, and unsupported bespoke system.
- The TMS implementation project involved migration of data from the bespoke system for tenures across six jurisdictions and 14 regulatory acts. Workflows were designed, configured and tested for more than 30 different license types for Origin's onshore and offshore operations, upstream tenures, pipelines and associated permits.
- A key focus of the implementation was the improvement of work program and expenditure reporting.
- Commercial agreement management for three additional business units was added later following the initial successes.

Impact

- The unsupported and outdated bespoke system was replaced with a single, integrated tenure management solution, in a project that was successfully delivered on time, and on budget.
- Landfolio was implemented with little customisation being required, ensuring the customer had a long term and sustainable solution in place.
- Approximately 20 client reports were designed for Origin which enabled the management team immediate access to information which previously was compiled manually.

Client Challenges

- The existing bespoke system was largely unsupported and if changes were needed, expensive custom development was required.
- Multiple internal business units required timely access to tenures information to make important business decisions, however this was impacted due to difficulty in accessing information and having confidence the information was complete.
- The existing system had no GIS integration capabilities.
- Due to the inflexibility of the legacy system it was previously difficult to generate reports or easily extract data.

