MYANMAR

- Strategic location in Asia
- Land area
  › 652,290 square km
- Population
  › 52 million
  › Ethnic diversity
- Economy (2018 estimates)
  › GDP: US$70.7 billion
  › GDP per cap: US$1,338.5
  › Inflation: 5.5%

Data: DFAT Country fact sheet, World Bank, ADB
Map: Myanmar Information Management Unit
KEY GOVERNMENT AGENCIES

- Ministry of Natural Resources & Environmental Conservation
  › Department of Mines
  › Department of Geological Survey and Mineral Exploration
  › Department of Environmental Conservation
  › Department of Forestry
  › Mining enterprises
- Ministry of National Planning & Economic Development
- Myanmar Investment Commission/Directorate of Investment and Company Administration (DICA)
- State and Regional Governments
POTENTIAL COMMERCIAL OPPORTUNITIES

• Mineral exploration and development
• Mining equipment, technology & services
• Environmental technology and services
• Vocational training and skills development
• Capacity building within government agencies
• Research collaboration

**Keys to success**: long-term, sustainable, supporting Myanmar’s national development

Photo: Mining Examiner; International Business Times
## METS OPPORTUNITIES

<table>
<thead>
<tr>
<th>Domain</th>
<th>Services</th>
</tr>
</thead>
<tbody>
<tr>
<td>Exploration</td>
<td>Aerial exploration, Storage, analysis and dissemination of exploration data</td>
</tr>
<tr>
<td>Geomining Consultancy</td>
<td>Resource estimation, Detailed project report</td>
</tr>
<tr>
<td>Engineering Components</td>
<td>Pumps, Valves, Gears, Hydraulic Hoses, Radiators</td>
</tr>
<tr>
<td>Surveying</td>
<td>Mine survey, face mapping and stockpile calculations</td>
</tr>
<tr>
<td>Mineral Testing</td>
<td>Test sample preparation equipment, mineral test equipment, In motion/on belt mineral analysers</td>
</tr>
<tr>
<td>Mining IT</td>
<td>Mine planning software, mine management systems/truck despatch systems for fleet monitoring and optimisation with reporting, ERP solutions for mining</td>
</tr>
</tbody>
</table>
ACTIVITIES IN MYANMAR

• Myanmar Mining Delegation Mission to Australia – 2017
• Construction, Power & Mining Myanmar UBM 11-13 October 2018
• IMARC- Delegation visit – 29 October-1 November 2018
• Myanmar Mining Development Summit – 22-23 November 2018
• Invest Myanmar Summit UMFCCI – 8-9 January 2019
• Australian METS Mission to Myanmar – 2019 TBC
CONTACT US

DANNY KYAW, BUSINESS DEVELOPMENT MANAGER
EMAIL: DANNY.KYAW@AUSTRADE.GOV.AU

ADDRESS: AUSTRALIAN EMBASSY
VANTAGE TOWER,
623 PYAY ROAD, YANGON

TEL: +95 1 230 7410
FAX: +95 1 230 7425
PanAust is an Australian-headquartered copper and gold producer, owned by Guangdong Rising Assets Management (GRAM), with producing assets in Laos and a portfolio of organic growth projects in Laos, Papua New Guinea (PNG), Myanmar and Chile.

In Myanmar, PanAust holds an 80 per cent interest in Wuntho Resources Company Limited (WRCL) and has established a joint venture with Myanmar Energy Resources Group International Company Limited (MERG), a Myanmar-based company with holds the remaining 20 per cent of WRCL.

PanAust acquired a majority interest in the Frieda River Copper-Gold Project in PNG in August, 2014.

PanAust’s producing assets are the Phu Kham Copper-Gold Operation and the Ban Houayxai Gold-Silver Operation. Both are located in the Company’s 2,600 square kilometre Phu Bia Contract Area in Laos.

PanAust is an Australian-headquartered copper and gold producer, owned by Guangdong Rising Assets Management (GRAM), with producing assets in Laos and a portfolio of organic growth projects in Laos, Papua New Guinea (PNG), Myanmar and Chile.
PanAust’s world-class Operations in Laos provide a model for how the Company will advance its exploration activities in Myanmar.
Industry leading sustainability practices

Award-winning outcomes
History

Why we are here

- Geologic prospectivity
- Political/economic reforms
- Mining legal framework
- Can be compared to the opening of Laos in the 1990s
Licensing 2016

- On 8 February 2016, PanAust announced it had been granted three Exploration Licenses
- The Exploration Licenses comprise three blocks – Hel Chain, Pin Hin Hka and Nam Awl
- Total of 700km$^2$, with 150km$^2$ subsequently relinquished
Licensing 2018

- On 6 July 2018, PanAust announced it had successfully secured three new Exploration Licenses in Myanmar.
- The announcement followed approval by the Government of the Republic of the Union of Myanmar approval on 21 June 2018.
- The Exploration Licenses for the Ton Kyaung, Taung Kon and Naungphat blocks are the first awarded under the Government’s new minerals regulations and represent a 562 square-kilometre area in the highly prospective Wuntho Massif region.
Challenges and opportunities

- A blank slate – underexplored and highly prospective
- Limited experience of mining
- Local communities
Challenges and opportunities cont.

- Working through the permitting process
- Working with Government to build capacity and mutual understanding
- With challenges come opportunities
Thank you

For more information visit the PanAust website: www.panaust.com.au
Valentis Myanmar
Exploration, Drilling and Mining Services
Austrade Briefing 6 September 2018

Contents

1. Introduction to Valentis

2. Myanmar’s Mining Sector
   a) Overview
   b) Mining, Exploration, Potential, Opportunities
   c) Myanmar’s Mine Rules

3. Bawdwin Case Study
   a) Significance of Bawdwin
   b) Valentis Role at Bawdwin
About Valentis

Valentis is an Australian and Myanmar led exploration, mining services and advisory group in Myanmar.

Established in 2014, Valentis has grown to over 100 employees and offers turn-key project services at an international standard.

Through our strategic partnerships and joint ventures, Valentis is able to deliver turn-key services at an international standard.

Myanmar’s first JORC resource

In 2017-2018, Valentis led and developed an exploration program that successfully developed the first JORC compliant resource in Myanmar: the Bawdwin mine is one of the most historic mines in Myanmar and remains a world-class mineral deposit.
## VALENTIS: OUR SERVICES

<table>
<thead>
<tr>
<th>Section</th>
<th>Services</th>
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<tbody>
<tr>
<td><strong>Exploration Services</strong></td>
<td>• Mineral systems targeting &amp; project generation</td>
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<tr>
<td></td>
<td>• Geochemistry</td>
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<tr>
<td></td>
<td>• Mapping &amp; field investigations</td>
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<tr>
<td></td>
<td>• Drill program planning &amp; supervision</td>
</tr>
<tr>
<td></td>
<td>• Exploration strategy &amp; project management</td>
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<tr>
<td><strong>Geophysics, Mapping &amp; Field Investigations</strong></td>
<td>• Electrical, magnetic and gravity methods</td>
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<td>• Downhole geophysics</td>
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<tr>
<td></td>
<td>• Airborne geophysics</td>
</tr>
<tr>
<td></td>
<td>• Geotechnical and groundwater applications</td>
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<tr>
<td><strong>Sample Assay</strong></td>
<td>• Full preparatory facility in Yangon</td>
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<tr>
<td></td>
<td>• Samples sent to Intertek Manila</td>
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<tr>
<td><strong>Drilling</strong></td>
<td>• Diamond drilling (High performance Alton and Man Portable) and RC drilling</td>
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### VALENTIS: OUR SERVICES

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<thead>
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<th>GEOTECHNICAL AND MINING</th>
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<td>• Landslides and Geohazard assessments</td>
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<td>• Mine Planning and mine waste design</td>
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<td>• Foundation Design</td>
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<td>• Deep Excavation</td>
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<th>ENVIRONMENTAL</th>
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<tr>
<td>• Environmental and Social Impact Assessment</td>
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<td>• Initial Environmental Examination</td>
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<td>• Environmental Management Plan</td>
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<td>• Mining environmental management plan</td>
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<tr>
<td>• Environmental monitoring report</td>
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<th><strong>7</strong></th>
<th>COMMERCIAL ADVISORY</th>
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<td>• Opportunity sourcing</td>
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<tr>
<td>• Technical and commercial due diligence</td>
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<td>• Stakeholder management</td>
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<tr>
<td>• Concession application management</td>
<td></td>
</tr>
<tr>
<td>• M&amp;A – joint ventures, sales, acquisitions</td>
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</table>
OVERVIEW

MYANMAR’S ONGOING REFORM PROCESS

• Since democratic elections in 2011, Myanmar has continued to liberalise its economy. Key reforms have been undertaken in the telecommunications, banking, and resources sector.

• The new Myanmar Investment Law took effect in 2017 to establish a coherent legal framework for Myanmar and international investors. The new Myanmar’s Companies Act takes effect from 1 August 2018 and simplifies company administration and provides a wider framework for Myanmar’s businesses.

MYANMAR’S MINING SECTOR

• The mining sector in Myanmar is challenging, but the country has great mineral potential; there are many underexplored areas and huge potential for world-class sized deposits.

• The Ministry of Natural Resources and Environmental Conservation is the ministry that mining companies will deal with. MONREC was born of a merger between the ministry of mines and the environment ministry.

MYANMAR’S MINING SECTOR REOPENING

• In early 2018, Myanmar’s Government passed new Mines Rules. This follows amendments to the Myanmar Mines Law in December 2015.

• In July 2018, MONREC began accepting concession applications, lifting a 2-year mortarium.
MYANMAR MINING SECTOR

Mining
- Current operating mines are producing gold, copper, base metals, tin and industrial minerals from artisan to mechanised scales
- Mix of Myanmar, Chinese and Thai owner / operators
- Local owners are actively seeking new technology and funding to improve operations and increase profitability

Exploration Overview
- Very active exploration industry, local and international explorers
- Main regions of high mineral prospectivity are held under licence by a mix of local and international companies
- Local companies are open to partnerships to introduce new technology and funding, and to share exploration risk

Potential
- Excellent exploration potential for high value Au, Cu, Pb, Zn, Ag, Sn and W deposits
- Moderate to strong potential for bulk commodities and industrial minerals
- Undefined potential for ‘critical’ metals – lithium, tantalum, cobalt, REE

Opportunities
- Little modern ‘western’ exploration
- No modern government-based geological mapping, geophysics or geochemistry; limited geological research
- Limited understanding of deposit geology and models
- Local partnerships are important
- Tier 1 deposit discoveries
In early 2018, Myanmar’s Government passed new Mines Rules. This follows amendments to the Myanmar Mines Law in December 2015.

2015 Law Amendments made some critical improvements to the Law, including:

1. Increasing the maximum mine life for large scale production projects to 50 years

2. Providing a guaranteed right of production for investors who have carried out prior exploration and feasibility

3. The introduction of alternative State participation mechanisms

4. Enabling upgrading of small or medium scale licences to large scale in order to allow foreign joint ventures

The New Rules provide useful detail, with the primary modifications relating to:

- Licencing
- The fiscal regime, and
- Environmental management

**NEW MINING RULES**

**WHAT INVESTORS WANTED**

- First Come, First Served Application Process
- Automatic Right to Move Between Licence Stages
- Mine Life Extension
- Clarity on Transfer of Rights
- Alignment with Environmental Laws
- Significant Dead Rent Reduction

**POSSIBLE UNWELCOME AMENDMENTS**

- Possible Onerous Change in Control Provisions
- Ill-defined Tender Processes for Known Deposits
- Decentralisation of Small Scale Licencing
BAWDWIN MINE CASE STUDY

In 2017, ASX listed company Myanmar Metals (MYL) secured an option to invest into the Bawdwin project, one of Myanmar and the world’s most historic mining projects.

GLOBAL SIGNIFICANCE OF BAWDWIN

A world class project on grade, resource size and cost.
Myanmar Metals along with two local partners are now progressing to re-develop the world-class Bawdwin polymetallic mine.

- A pre-feasibility study is being undertaken, due to be completed in early 2019.
- Further resource drilling and exploration programs will be undertaken in 2019. Following this, development and investment approvals will be sought from the Myanmar Government.
- Target construction commencement is 2020 and commissioning and first ore processed by late 2021.

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<th>Class</th>
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<th>Zn (%)</th>
<th>Cu (%)</th>
<th>Ag (ppm)</th>
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<td>81,797</td>
<td>4.8</td>
<td>2.4</td>
<td>0.24</td>
<td>119</td>
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</tbody>
</table>

Source: Myanmar Metals ASX Announcements
Valentis was appointed Project Manager by the owners of the Bawdwin base metal mine in Shan State in September 2016, to undertake a redevelopment program for the mine.

The Bawdwin review involved an extensive office and field program to capture all historical mining and exploration data into a new database. This work has supported drilling to define a new JORC Mineral Resource (Pb / Zn / Ag / Cu), the first JORC Resource in Myanmar, completed in August 2017.

- Initial tasks involved scanning and digitising over 1,000 hard copy plans and manually entering 35,000 underground channel samples to build a 3D geology and infrastructure model for the mine
- Interrogation of the historic data was combined with detailed mapping and sampling of the Chinaman open pit (450 samples), and a program of 21 core drillholes (2,966 metres, 2,100 samples)
- The drilling program was designed to define the Resource potential of the historically-mined base metal lodes
- Highly detailed geology and mineral resource models were constructed for the mine, and a new Mineral Resource was estimated.
- The new Bawdwin Resource is being used as the basis for studies to determine economic parameters for new open pit mining and metallurgical processing.
# VALENTIS CONTACT DETAILS

Contact us at [Myanmar@valentisresources.com](mailto:Myanmar@valentisresources.com) or visit our website at [www.valentisresources.com](http://www.valentisresources.com)

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## VALENTIS HEAD OFFICE

C-4, Thazin (1) Street, Hlaing Yadanar Housing, Hlaing Township, Yangon, Myanmar

## BOARD OF DIRECTORS

<table>
<thead>
<tr>
<th>Name</th>
<th>Title</th>
<th>Contact Information</th>
</tr>
</thead>
<tbody>
<tr>
<td>LACHLAN FOY</td>
<td>GROUP CEO</td>
<td>+95 (0) 9 254 886 795 + 66 (0) 624 916 712</td>
</tr>
<tr>
<td></td>
<td></td>
<td><a href="mailto:lfoy@valentisresources.com">lfoy@valentisresources.com</a></td>
</tr>
<tr>
<td>MICHAEL PHIN</td>
<td>GROUP COO/CFO</td>
<td>+95 (0) 9 250 716 667</td>
</tr>
<tr>
<td></td>
<td></td>
<td><a href="mailto:mphin@valentisresources.com">mphin@valentisresources.com</a></td>
</tr>
<tr>
<td>LA MIN WIN</td>
<td>GROUP MD</td>
<td>+95 (0) 9 515 4777</td>
</tr>
<tr>
<td></td>
<td></td>
<td><a href="mailto:lmwin@valentisresources.com">lmwin@valentisresources.com</a></td>
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## GEOLOGICAL SERVICES

<table>
<thead>
<tr>
<th>Name</th>
<th>Title</th>
<th>Contact Information</th>
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<tbody>
<tr>
<td>GEOFFREY LOWE</td>
<td>CEO – VALENTIS SERVICES</td>
<td>+95 (0) 9 455 974 852</td>
</tr>
<tr>
<td></td>
<td></td>
<td><a href="mailto:glowe@valentisresources.com">glowe@valentisresources.com</a></td>
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## DRILLING SERVICES

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<tr>
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<tr>
<td>DAVID D’ASTOLI</td>
<td>GROUP BUSINESS DEVELOPMENT</td>
<td>+61 439 444 388</td>
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<tr>
<td></td>
<td></td>
<td><a href="mailto:david.d@titelineinternational.com">david.d@titelineinternational.com</a></td>
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## ENVIRONMENTAL & GEOTECHNICAL SERVICES

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<tbody>
<tr>
<td>DR SOE MOE KYAW WIN</td>
<td>GENERAL MANAGER</td>
<td>+95 (0) 9 455 309 359</td>
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<tr>
<td></td>
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<td><a href="mailto:soemoe@valentisresources.com">soemoe@valentisresources.com</a></td>
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</tbody>
</table>
CONTACT US

DANNY KYAW, BUSINESS DEVELOPMENT MANAGER
EMAIL: DANNY.KYAW@AUSTRADE.GOV.AU

ADDRESS: AUSTRALIAN EMBASSY
VANTAGE TOWER,
623 PYAY ROAD, YANGON

TEL: +95 1 230 7410
FAX: +95 1 230 7425