INVESTMENT PROPOSITION

To become a significant African technology metals producer

Tin, tantalum & lithium

- Growing demand from energy efficient technologies
- Limited tin supply side growth opportunities

Significant resource potential identified

- High grade tin quartz vein mineralisation
- Large open pit tin-tantalum potential
- High grade lithium potential at depth
- Initial JORC Resource: 10Mt defined Q1 2019

Rwanda: an excellent investment destination

- Significant mineral resource potential
- One of the fastest growing and most stable economies in Africa
- Strong institutions, investor friendly, development of resource sector a priority

In production

- High grade underground mining operation
- Pilot processing plant being commissioned
- Good scalability with low capex mechanisation
- Excellent gravity concentration amenability of coarse-grained tin
TIN, TANTALUM & LITHIUM

Demand growth driven by technology applications

**Tin**
A highly versatile metal used in electronics (soldering) and to prevent corrosion. Strong demand prospects in new technologies such as electric vehicles, robotics, renewable energy.

**Tantalum**
A niche metal used in capacitors by the electronics industry and to add strength in alloys.

**Lithium**
Demand growth driven by batteries for electric vehicle revolution.

*Sn* Tin as critical connector metal in new technology applications

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**Metals most impacted by new technology**

Source: Rio Tinto, MIT, 2018

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**Demand by end use**

Source: SG Cross Asset Research
TIN MARKET

Limited new supply

- Tin market has been in deficit for 9 of the last 10 years, with declining production from traditional producing regions as resources are depleted.
- Supply from Myanmar increased rapidly over the past 5 years but now appears to be in structural decline.
- Limited number of viable projects coming on stream and many new projects requiring an incentive price of ~$25,000/t to proceed.
- Refined tin stocks in LME approved warehouses dropped to 20-year lows earlier in 2019, to below 1,000t versus 27,000t at the start of the decade and 40,000t in 2002.
- LME tin currently trading at ~US$17,000/t, after hitting US$21,800/t in February 2019, following the prolonged trade dispute between the US and China.
- Longer term supply very stretched; tin use as anode in lithium-ion batteries for electric vehicles could lead to surge in demand over the next decade.
- Tin is well placed to benefit significantly from a broader technology revolution extending to robotics and clean energy.

Tin supply to remain constrained
Attractive mining investment destination

Strong and stable Government

- President Kagame re-elected in Aug 2017 for 7 years
- Incredible turnaround from divided country 25 years ago to a united and stable nation today

One of the fastest growing economies in Africa

- GDP growth of 8% a year since 2000
- Priority sectors for growth: tourism, agriculture, and mining
- 2nd lowest corruption index in Africa (Transparency International 2018)
- Lowest business risk in Africa (ExxAfrica investment risk report 2019)
- Significant investment in road, power & communications infrastructure to facilitate continued economic growth and foreign investment

Pro-Investment regulatory environment

- Mining Law updated in 2018 to promote professional large scale investment into the sector
- All sectors open to private investment, domestic or foreign
- Investor’s rights embedded in law: simple to repatriate capital and profits
- Attractive tax regime: Corporate tax rate 30%; royalty of 4% for base metals

GDP per capita ($’000, purchasing power parity)

Source: IMF ©FT
MINERAL RESOURCE

Mining licence on a significant mineralised belt

- **25 year mining licence covering 4,000 hectares**
  - Additional ~2,000 hectares under exploration licence
  - 40km from the capital, Kigali
  - Well developed road & power infrastructure; availability of water

**Initial JORC resource of 10Mt defined in Q1 2019**

- Musha - High grade quartz veins: 0.5 Mt @ 1.2% Sn plus Ta upside
- Ntunga - Sn-Ta-Li bearing pegmatite: 9.2Mt @ 0.25% Sn Eq plus Li upside

**Significant resource upside**

- Wider geological system points to two broad types of mineralisation:
  - **High grade Sn quartz veins** – high vein density; historic Belgian infrastructure provides fast-track access
  - **Sn-Ta-Li bearing pegmatite** – from surface and open at depth; potential for large scale Sn-Ta-Li operation

**Significant multi-product resource potential**
Li-Caesium-Ta pegmatite orebody

Typically zoned with changing mineral concentration at depth

Musha and Ntunga are two surface expressions of a single larger pegmatite system

Musha at the top of the system – with tin grades higher than would be expected, representing an enrichment process from main pegmatite body

Ntunga in the second zone in a weathered valley with wider mineralisation that includes tin, tantalum and lithium

Emerging understanding of geological system

Drilling results, Belgian infrastructure & records, and historic artisanal activity all informing understanding of regional geological structure
## Early stage estimate of resource potential

<table>
<thead>
<tr>
<th>Targets</th>
<th>Pegmatite</th>
<th>High grade Sn</th>
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<tbody>
<tr>
<td>Musha Central*</td>
<td></td>
<td>1–2 Mt @ 1.2% Sn</td>
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<tr>
<td></td>
<td></td>
<td>(incl 0.5 Mt @ 1.2% Sn JORC)</td>
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<tr>
<td>Musha North - Kabare</td>
<td></td>
<td>2–4 Mt @ 0.6–1.2% Sn</td>
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<tr>
<td>Musha South – Munini</td>
<td>1–3 Mt @ 0.25-0.30% SnEq</td>
<td>1-2 Mt @ 0.6-0.8% Sn</td>
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<tr>
<td>Ntunga*</td>
<td>15–20 Mt @ 0.25-0.30% SnEq</td>
<td>2–4 Mt @ 0.6–1.2% Sn</td>
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<tr>
<td></td>
<td>(incl 9 Mt @ 0.25% SnEq JORC)</td>
<td>(Stockworks)</td>
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<tr>
<td>Duha</td>
<td>1–3 Mt @ 0.6–0.8% Sn</td>
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<tr>
<td>Gashikiri</td>
<td>1–3 Mt @ 0.6–0.8% Sn</td>
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<tr>
<td>Bicumbi</td>
<td>1–3 Mt @ 0.25-0.30% SnEq</td>
<td></td>
</tr>
<tr>
<td>Nyagakombe</td>
<td>1–3 Mt @ 0.25-0.30% SnEq</td>
<td>1–3 Mt @ 0.6–1.2% Sn</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td><strong>18–29 Mt @ 0.25-0.3% SnEq</strong></td>
<td><strong>9–20 Mt @ 0.6–1.2% Sn</strong></td>
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* Area with drilling data, channel sampling, underground mapping and trial mining data

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**Drilling and historic surface mining indicating significant mineralisation belt**
Twin-track approach

**Trial underground mining & processing of high grade quartz veins:**
- Further the resource definition of nuggety, high grade, quartz vein mineralisation
- Develop a proof of concept for future large scale underground mining and processing
- Ramp up to cash positive operations in short-medium term
- Integrate local community ex-artisanal miners into a conventional, managed mining operation

**Further exploration:**
- Compliment current trial underground mining of high grade quartz veins
- Further definition of initial Sn-Ta-Li pegmatite resource to assess potential for large open pit operation
- Assess long term lithium potential – deeper drilling of pegmatite has recorded high grade intersects such as: 79.5m @ 1.59% Li2O
- Regional exploration to define full potential of wider licence area

Business plan to define two distinct large scale mining projects
Historic underground infrastructure has provided quick access to areas of the orebody.

Trial mining and processing underway, together with further drilling, will facilitate effective and fast-track definition of the nuggety, high grade resource with complex vein structures.

These trial operations will:
- Support the technical and economic assessment of a large-scale development project
- Establish a baseline positive operating cashflow
- Build operating capability on the ground

Further drilling in parallel will target extensions to maiden JORC resource to support significant expansion

Tantalum credit potential to be assessed

Pilot 15tph processing plant to optimise flowsheet for high grade, hard rock, Sn-Ta bearing ore

High grade quartz vein mineralisation from surface for underground development

Maiden JORC resource at Musha: 0.5Mt @ 1.2% Sn

High grade underground tin
Building operating capability on the ground

- Surface expressions of the high grade, narrow vein mineralisation have been mined for decades by artisanal mining community

- Introduction of semi-mechanised, conventional trial mining and processing plant will deliver:
  - Safe working environment
  - Industry standard operating processes
  - Platform for creation of skilled employment opportunities

- Transition of workforce to managed operations already well underway as jobs are created in the managed underground mines and processing facilities

- Ongoing safety education and training programmes are provided to upskill and entrench safe working practices

*Establishing the skills and processes for the future*
Orebody accessible from surface
Now requires further resource expansion drilling to assess large scale development
Lithium upside provides prospect of future large scale, high throughput, multi-product project
Deeper drilling intersected unweathered pegmatite with high grade lithium-containing intersects such as:
- 79.5m @ 1.59% Li₂O with 0.15% Sn & 0.01% Ta

Significant pegmatite potential along extent of mineralised belt
## A long term commitment

<table>
<thead>
<tr>
<th>2019</th>
<th>2020</th>
<th>2021</th>
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| Musha Sn-Ta Underground project | Trial mining and processing of high-grade quartz vein mineralisation to define:  
  • In-situ grade and vein structure and continuity  
  • Optimal mining and processing methods for long term scalable development opportunity | Surface & underground drilling to support early mine development, understand vein continuity at depth, & increase defined resource | Investment decision on large scale development |
| | | Technical studies and economic assessment of commercial scale project development options | Project construction |
| Ntunga Sn-Ta-Li Pegmatite Project | Exploration drilling to increase pegmatite resource, understand lithium potential and define mining options | Assessment of development options leading to PEA | Technical studies to support investment decision:  
  • Infill drilling to M&I  
  • ESIA, rehabilitation plan  
  • Full Feasibility Study |
| Regional Resource Definition | Regional exploration programme to define new pegmatite and high-grade quartz vein targets across area under licence  
  • Geological mapping and structural surveys  
  • Surface sampling and geochemistry | |  
  • Airborne geophysics  
  • Targeted drilling programme |
### Best practice social and environmental management is central to the business plan

**Community**
- Open lines of communication and active engagement with the local communities
- Information sharing on the project and its impact on local communities and economy
- Successful and sustainable operations at Musha and Ntunga will provide a platform for skilled job creation and a step change uplift in quality of life
- Initial Social Impact Assessment (SIA) completed and will be updated in 2019 for revised development plan

**Environment**
- Piran is committed to industry best practice standards of environmental management
- Initial Environmental Impact Assessment (EIA) completed and will be updated in 2019 for revised development plan
- Full transition in 2019 to conventional mining and processing methods will have step change positive impact on environment

**Government Relations**
- Very positive working relationships with authorities at all levels of Government
- Socially and environmentally responsible development of commercial, industry standard operations at Piran is aligned with Govt priority to promote investment into the Rwandan mining sector

**Safety & Health**
- Full transition in 2019 to directly managed conventional mining and processing will support journey to embedding industry best practice safety management
- Safety education and training programmes are provided regularly to upskill and develop the workforce and improve overall awareness of safe working practices
EXPERIENCED TEAM

Board of Directors

Shawn McCormick
CHAIRMAN
- 25 years of political and extractive industries sector experience;
- Served in The White House as Director for African Affairs on the National Security Council (Washington);
- Previously Director of Political Affairs with BP, London and Executive vice-president TNK-BP in Moscow.

Adonis Pouroullis
DEPUTY CHAIRMAN
- 20 years as an entrepreneur in the natural resources sector;
- Founder and Chairman of FTSE London listed Petra Diamonds, Rainbow Rare Earths & Aim listed Chariot Oil and Gas;
- Founder and Chairman of Pella Resources Limited.

James Beams
CHIEF EXECUTIVE OFFICER
- 25 years experience in the mining industry;
- 14 years in senior management positions at Anglo American and 5 years as CFO for the Copper business;
- Non Executive Chairman of North River Resources.

Robert Sinclair
NON-EXECUTIVE DIRECTOR
- 49 years experience in finance and accountancy;
- Managing Director of the Guernsey based Artemis Trustees Limited;
- A fellow of the Institute of Chartered Accountants in England & Wales.

Tim Gazzard
NON-EXECUTIVE DIRECTOR
- Global Head of Speciality Ores & Metals for Kalon Resources;
- 20 years experience in commodities across the supply chain including mining, asset development, logistics, sales, financing and M&A;
- Previously worked with Barclays Capital in Metals & Mining.

Alex Lowrie
NON-EXECUTIVE DIRECTOR
- 20 years experience investment banking, financial services & NED roles;
- 13 years in investment banking at ABN Amro, Deutsche Bank and RBS;
- Co-founder of Telemark Capital LLP.
Management Team

Peter Gardner
CHIEF FINANCIAL OFFICER

- Chartered Accountant with 15 years experience in the mining industry;
- Strong track record of financial management in Africa, South America and Central Asia;
- Previously CFO of Amara Mining plc and Chaarat Gold Holdings Limited.

Chris Brits
GENERAL MANAGER

- Extraction Metallurgist with over 20 years experience in the mining industry;
- Previously Project Manager for Bisha Gold Mines copper plant project in Eritrea;
- Before that with African Barrick Gold and Plant Manager at North Mara in Tanzania.

Shane Ryan
HEAD OF TECHNICAL SERVICES

- Geologist with 15 years experience across deposit types and commodities throughout Africa and Australia;
- Specialist experience in establishment of safe, effective and efficient mining practices;
- Previously worked as Geologist and Snr Geologist at Ivanhoe and Malaco.
www.piran-resources.com