Aims:

Transparent land and water science about mining

Influence better outcomes for the health and well-being of mining workforce and communities

Enhancing mineral production’s contribution to sustainable development across multiple dimensions

Integration!
Central idea: Transparent land and water science about mining

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<tr>
<th>Content</th>
<th>Services</th>
<th>Platform</th>
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<tbody>
<tr>
<td>Land and water science that can:</td>
<td><strong>Doing/application</strong>&lt;br&gt;- measure&lt;br&gt;- model&lt;br&gt;- forecast&lt;br&gt;<strong>Communication:</strong>&lt;br&gt;- interpret&lt;br&gt;- translate&lt;br&gt;- engage</td>
<td>• 3D and other data visualisation&lt;br&gt;• Simulation tools&lt;br&gt;• Data repositories (e.g. Wiki) – building a “knowledge legacy”&lt;br&gt;• Publications&lt;br&gt;• Dialogue about science (safe spaces)</td>
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<td>1. Underpin decision-making across stakeholders and disciplines</td>
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<td>2. Make mining more effective and productive</td>
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<td>Water quality, water quantity, soil science, plant science, landscape ecology and geochemistry</td>
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Stakeholder assumptions:
- Ongoing demand for credible information about mining/water/land interactions

We are growing:
- Disciplinary strength/competence
- Access to information

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Central idea: Influence better outcomes for the health and well-being of mining workforce and communities

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<td><strong>Now</strong></td>
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<td>Formation of integrated concepts (Risk, cumulative impact and dimensions of new technologies)</td>
<td>Capacity building</td>
<td>Identifying new application of existing SMI platforms</td>
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<td>Existing discipline depth</td>
<td>Academic output</td>
<td>UQX</td>
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<td><strong>Future</strong></td>
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<td>Disciplinary depth in new domains (ASM, ISM and IE)</td>
<td>Better articulated impact</td>
<td>Virtual learning communities</td>
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<td>New discipline areas through collaboration</td>
<td>Increased academic output</td>
<td>Apps</td>
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<td>Fully integrated across SMI</td>
<td>New method for knowledge acquisition</td>
<td>Simulations</td>
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- **Stakeholder assumptions:**
- Traditional return on investment model does not fully engage with people issues
- Non-industry sources will be integral to funding base
- Community engagement is key and flexible education required

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Production: Enhancing mineral production’s contribution to sustainable development across multiple dimensions

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| • Knowledge of mineral deposits and its impact on key processes of mining production value chain | • Education (RHD; Masters; professional development) using advanced platforms (e.g. MOOCS, SPOCS) to enhance SMI and UQ branding  
  • Providing solutions to industry through productivity improvements and generation of wealth to the society  
  • Holistic options analysis to evaluate economic value through simulation  
  • Advanced consulting services and commercialisation with JKTech  
  • Technology partnerships with mining companies | • Business platforms:  
  • 1:1 research projects (large/small)  
  • collaborative research  
  • co-development of partnerships  
  • Embedding people in industry (physically/ virtually)  
  • Models and simulators  
  • Commercial products and processes  
  • Education (thought leaders and business leaders) |

Strategy:
Leverage our core strength to deliver short term impact to key stakeholders and integrate with social and environmental aspects to develop and deliver new disruptive technologies
Communication through quality publication
Communication of research impacts and outcomes

Strategy:
expansion through commodities and regions (replicate ICE Chile)
Continuously deliver results without loosing long-term objective
Embedding people in industry (physically/ virtually)
Communication of research impacts and outcomes

Strategy:
expansion through commodities and regions
Using modern tools of communication and collaboration
Alumni