

An aerial photograph of a rugged, mountainous landscape. A large, irregularly shaped brown area, likely a mining operation, is prominent on the left side. The surrounding terrain is characterized by steep, rocky slopes in shades of tan, brown, and blue. The text "EO & Data Fusion Across the Mining Lifecycle" is overlaid in white, bold, sans-serif font in the center of the image.

# EO & Data Fusion Across the Mining Lifecycle

Queensland Earth Observation Hub

*Photo: San Cristobel Mine, Bolivia (Ultradistancia)*

# Introduction

## Rob Foster

CEO, Fetch Metals (Cu explorer)

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# Mining Lifecycle



Changes of ownership = loss of knowledge

Siloed Contracting / Ownership / Government = loss of knowledge

Changing owners, management teams, markets, regulations, societal expectations

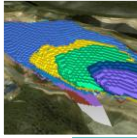
Same orebody, ground, environment\*, community\*

# Lifecycle Focus



## Exploration

- Remote monitoring
- Enviro monitoring
- Hyper/multi spectral
- Fusion with geophysics (EM, VTEM, Gravity etc), downhole data, soils, GIS/maps



## Studies & Planning

- Design terrain
- Enviro studies
- PMLU options
- Community engagement
- Fusion with GIS/maps, validation with on ground,



## Design & Construction

- Design terrain
- Progress, esp linear/earthworks
- Monitoring vs plans (mine, enviro)
- Community engagement
- Fusion with local sensors, plans/3d designs



## Production

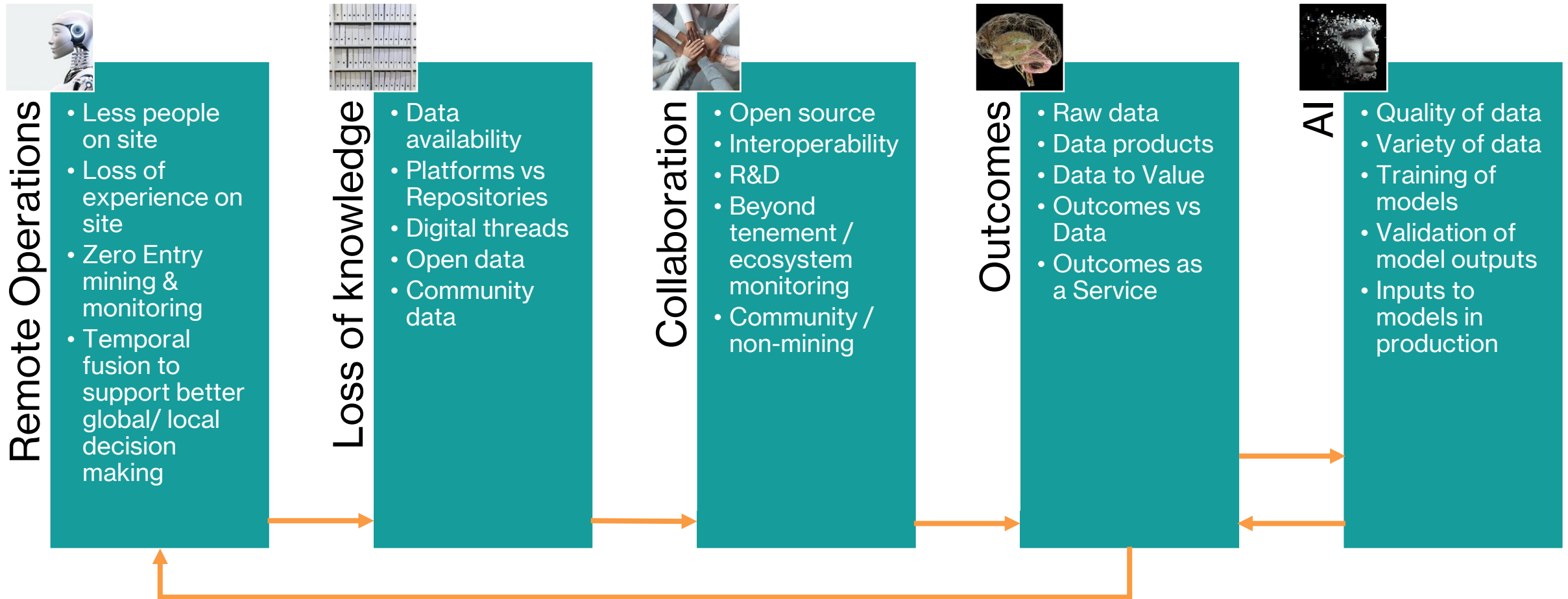
- Pit / Stockpile
- Tailings
- Water
- Roads
- Regional Environment & Community
- Fusion with Drones, LIDAR, GIS, Real Time Location

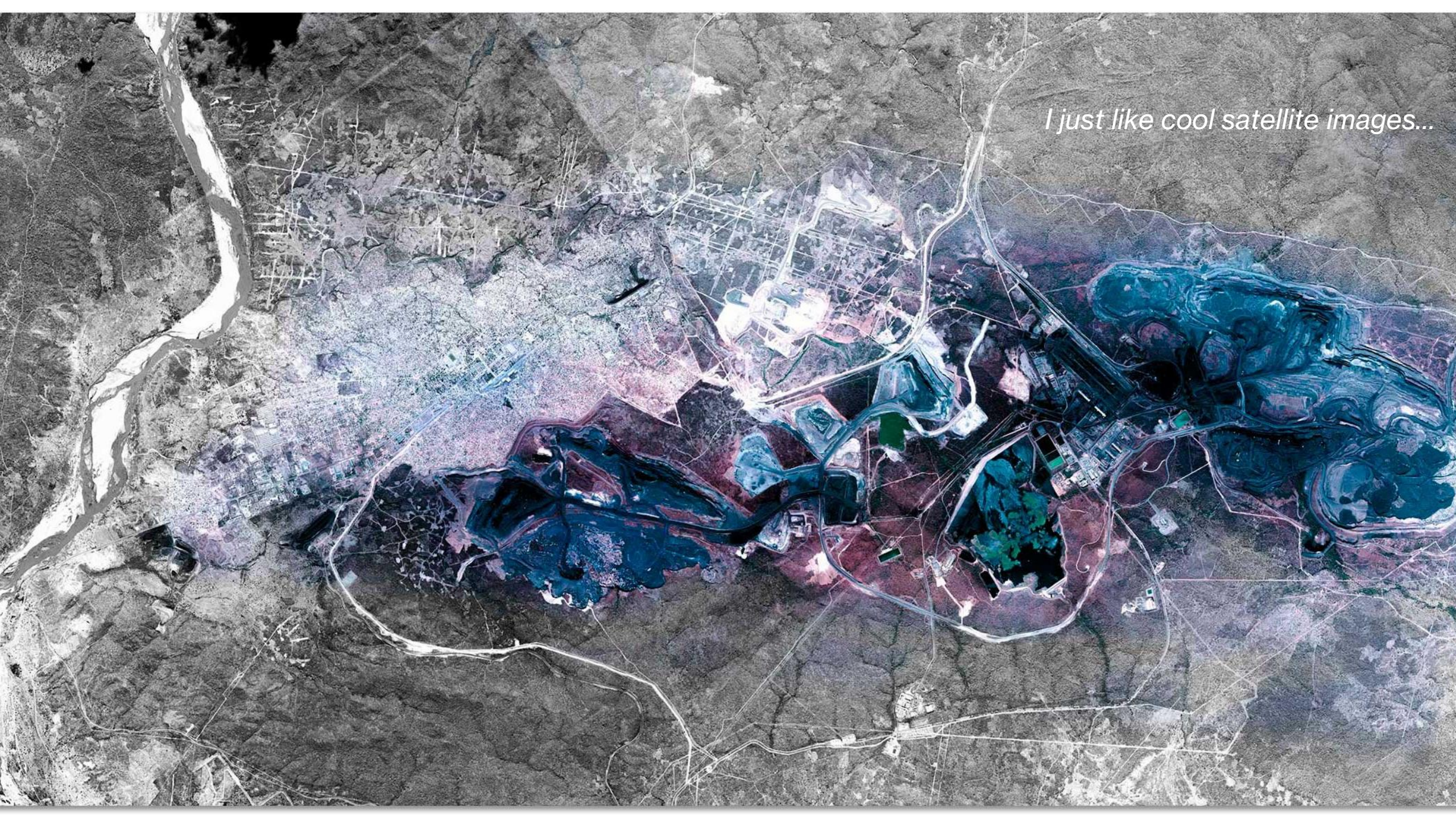


## Closure & Rehab

- Long term remote monitoring
- Vegetation
- Water
- Fusion with IOT/ subsurface, Community portals, Gov databases

# Problem/Opportunity Focus





*I just like cool satellite images...*