Zuhayr Harricombe | Regional Sales Manager – Trimble Advanced Positioning

FEB 16

Trimble Positioning Solutions

Introduction & Agenda

Trimble Advanced Positioning is an enabling technology provider with global reach offering solutions for multi-disciplinary applications. With a wide range of convenient services to cater for customer positioning accuracy requirements, we have the solution to meet your needs.

- Satellite Based Correction Services: New mine exploration

- RTN : Real Time Network solutions

- Monitoring: Mine and Tailings Dam Monitoring

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Land Administration Solutions

- Supporting the Complete Land Administration Workflow

Flexibility to meet the needs of any project

Land Administration Solutions

Geodetic Control — Field Collection — Data Processing — Decision Making
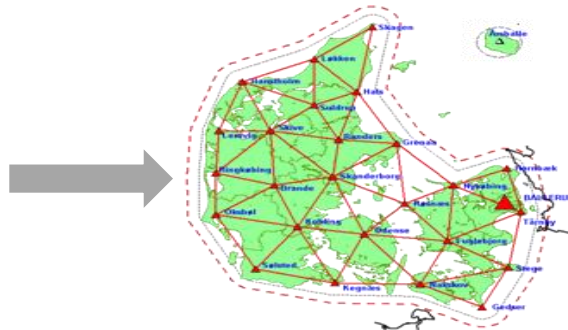
Services

Geodetic Control Solutions

- Consistent and Accurate Spatial Data Collection
  - **Scalable Infrastructure Solutions - Single Station to Nationwide Coverage**
  - **Worldwide Positioning Services via Satellite**
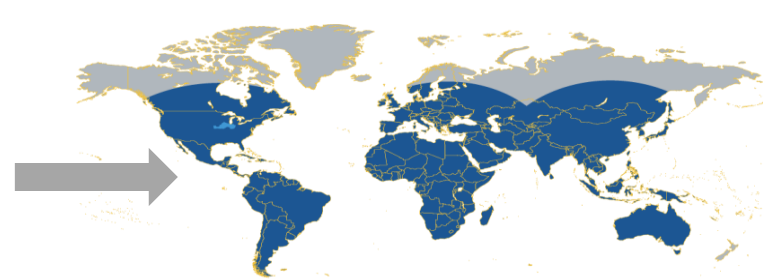 - **Backbone for any Land Admin project**

Single Station

Nationwide Coverage

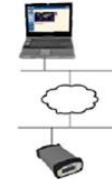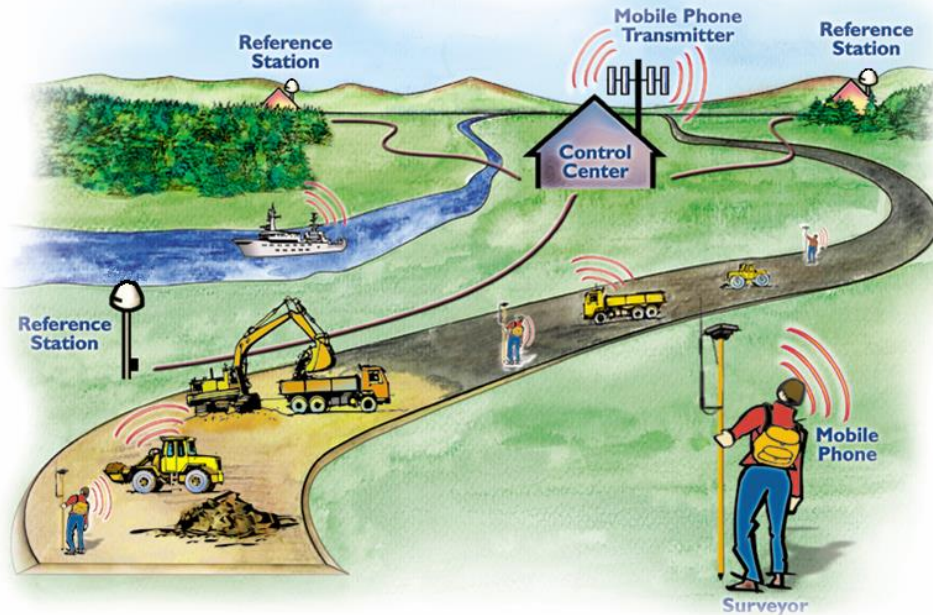**Worldwide Satellite Coverage**

Exploration of potential sites

- Using Trimble RTX satellite based services during the exploration phase of finding a possible new site.

- Advantages:
  - 4cm Accuracy
  - No limits on coverage
  - Accuracy without the need of a RTK base station
  - No Radio or terrestrial communication channels needed
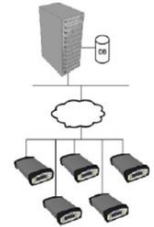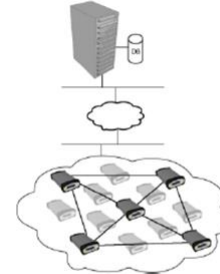
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Real Time networks

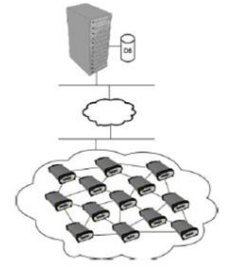*To provide accurate scalable positioning solutions to enable productivity and efficiency*

Single BASE/CORS
Trimble NetR9
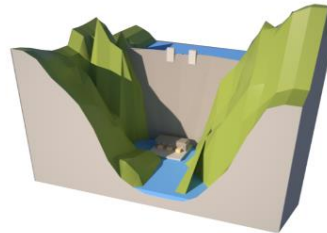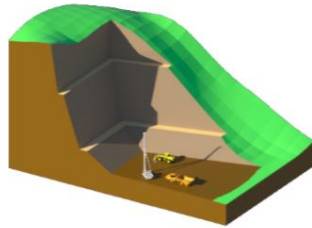
BASE/CORS Array
Trimble Dynamic Control App

SparseVRS Network
Trimble SparseVRS

VRS Network
Trimble VRS³Net App

Reference Station

Mobile Phone Transmitter

Reference Station

Control Center

Reference Station

Mobile Phone

Surveyor

Mine and Tailings Dam Monitoring

- What is monitoring?
  - It is the process of taking **measurements** onto a **structure** over a period of **time**, to detect **changes** in the size, shape or behaviour of the structure.

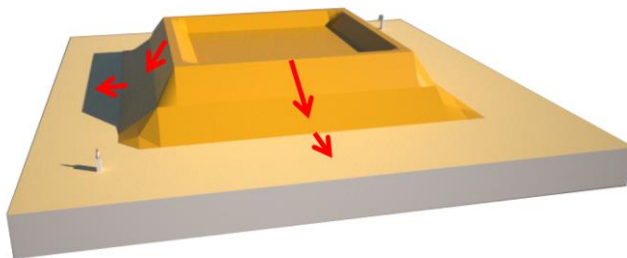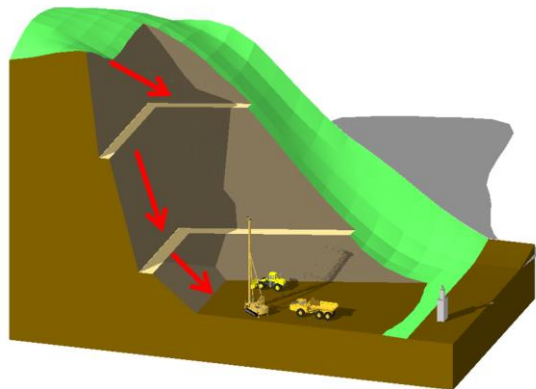# Primary Failure

Slope Stability Monitoring

Goal:

To monitor the behaviour of steep slopes in an active pit to detect the onset of potential failure and to issue timeous warnings

Tailings Dam Monitoring

Goal:

To detect conditions that may lead to rapid slope failure or dam break leading to catastrophic uncontrolled discharge of the dam contents and to issue timeous warnings
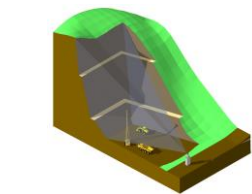
Slope Stability

- Slumping
- Wedge failure
- Circular failure
- Toppling

Tailings Dam

- Heave/ settlement
- Slope failure
  - Slumping
  - Sliding
- Piping
- Seismic related liquefaction

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Solution Overview

Active Pit
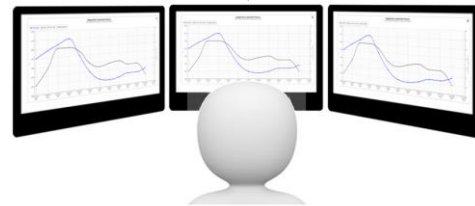
Tailings Dam

Data Processing

Trimble 4D Control

Data Presentation

Visualisation
Analysis
Reporting
Alarming

- Thank you

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