A Picture Paints A Thousand Words

The Role of Visualization in Communicating Project Design to Support Consultation and Understanding in the ESIA Process
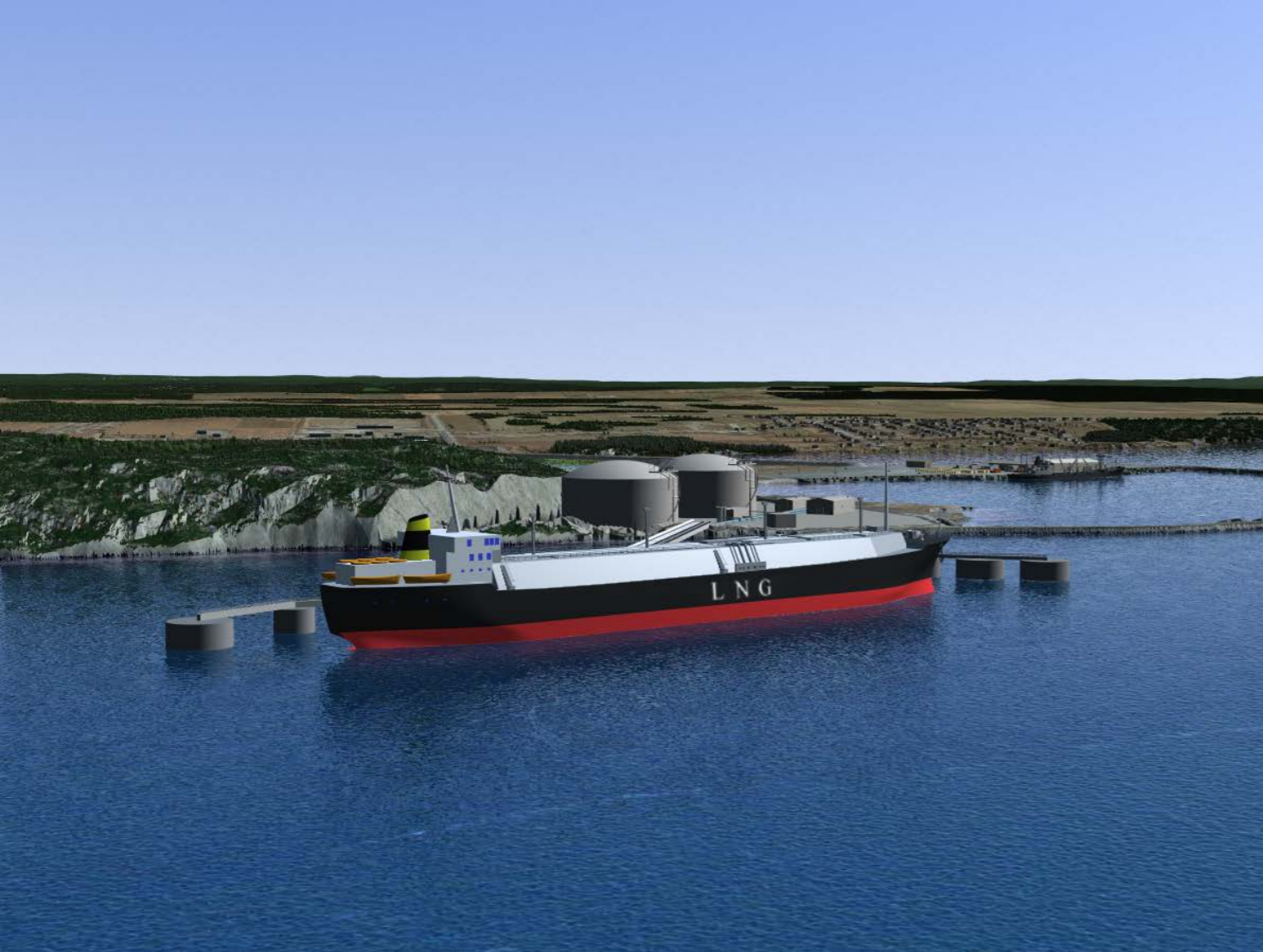
Daryl Harrison, Golder Associates Ltd. Canada
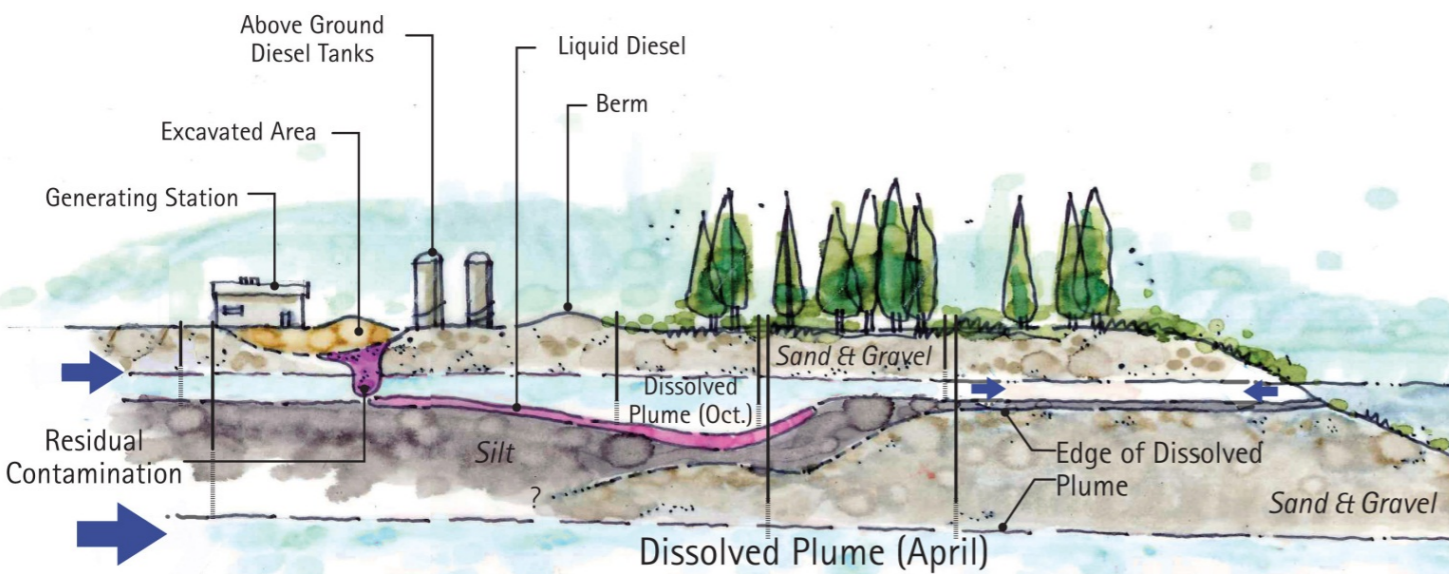2014 IAIA Conference | Viña del Mar, Chile

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Presentation Outline

Emerging computer-based visualization tools and techniques allows for the **improved representation** of technical information and communication.

- **Challenges** to communication technical information in an ESIA.

- **Opportunities** for visualization to support stakeholder strategies by visual means.

- **Examples** of technologies available to present visual representations of project design and effects.

- The **risk and responsibilities** of professionals in utilizing visualizations.

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NORTH

Above Ground Diesel Tanks

Liquid Diesel

Berm

Excavated Area

Generating Station

Dissolved Plume (Oct.)

Sand & Gravel

Residual Contamination

Silt

?

Edge of Dissolved Plume

Sand & Gravel

Dissolved Plume (April)

Sample Visualizations

The challenge of communicating technical information

- ESIA's often involve a large amount of **technical information**.

- Knowledge or cultural **barriers** to interpret information or recognize its value.

- An opportunity to **explain** objectives and to **understand** and address concerns or perceptions.

Opportunities to support stakeholder strategies by visual means

- Visualization presents **key concepts** and their **relationships** that may addresses some of the barriers to understanding technical information.

- Visual communication can be more powerful than verbal or written communication

Opportunities to support stakeholder strategies by visual means

- More relevant with the **increasing availability** of technologies and techniques for visualization.

- More resources than ever available for creating and displaying visually rich evidence

Opportunities to support stakeholder strategies by visual means

- Resulting in an **enhanced process** and improvement to the overall quality of the project.

  - support the various opportunities for stakeholder engagement with the project lifecycle
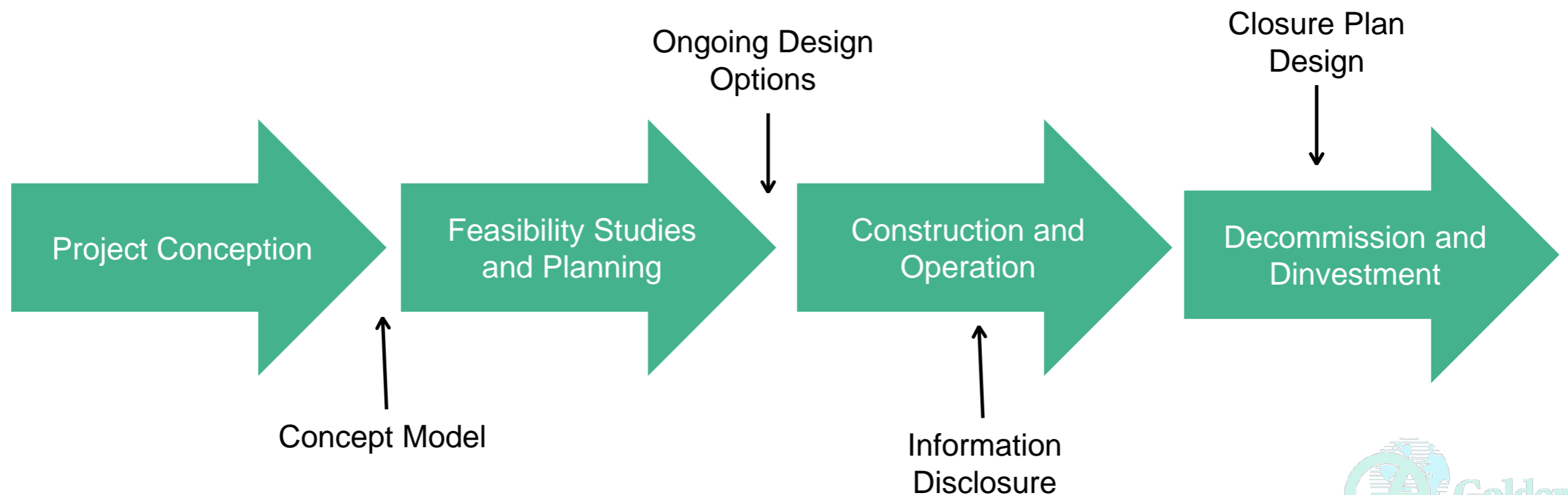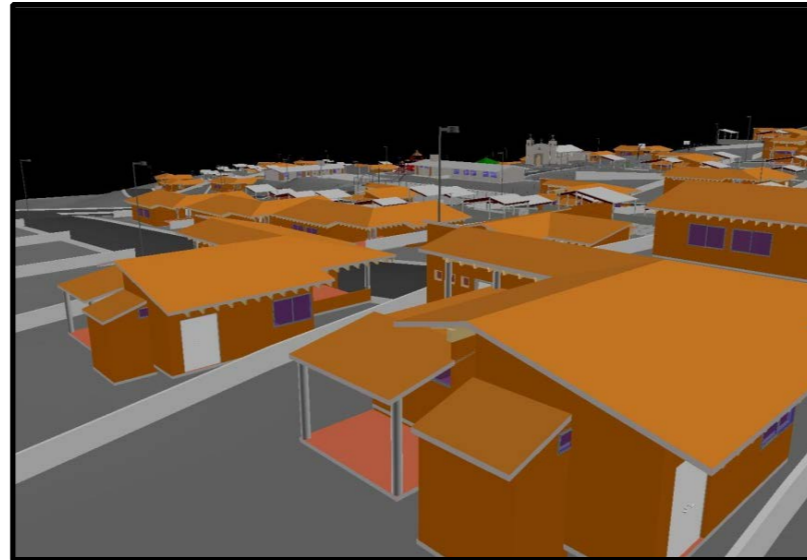
Visualization Tools

Landscape Simulations

Accurate and recognizable representation of project components and visual effects.

Interactive Geo-browser

interactive interface for exploring of 3D project designs and landscapes.
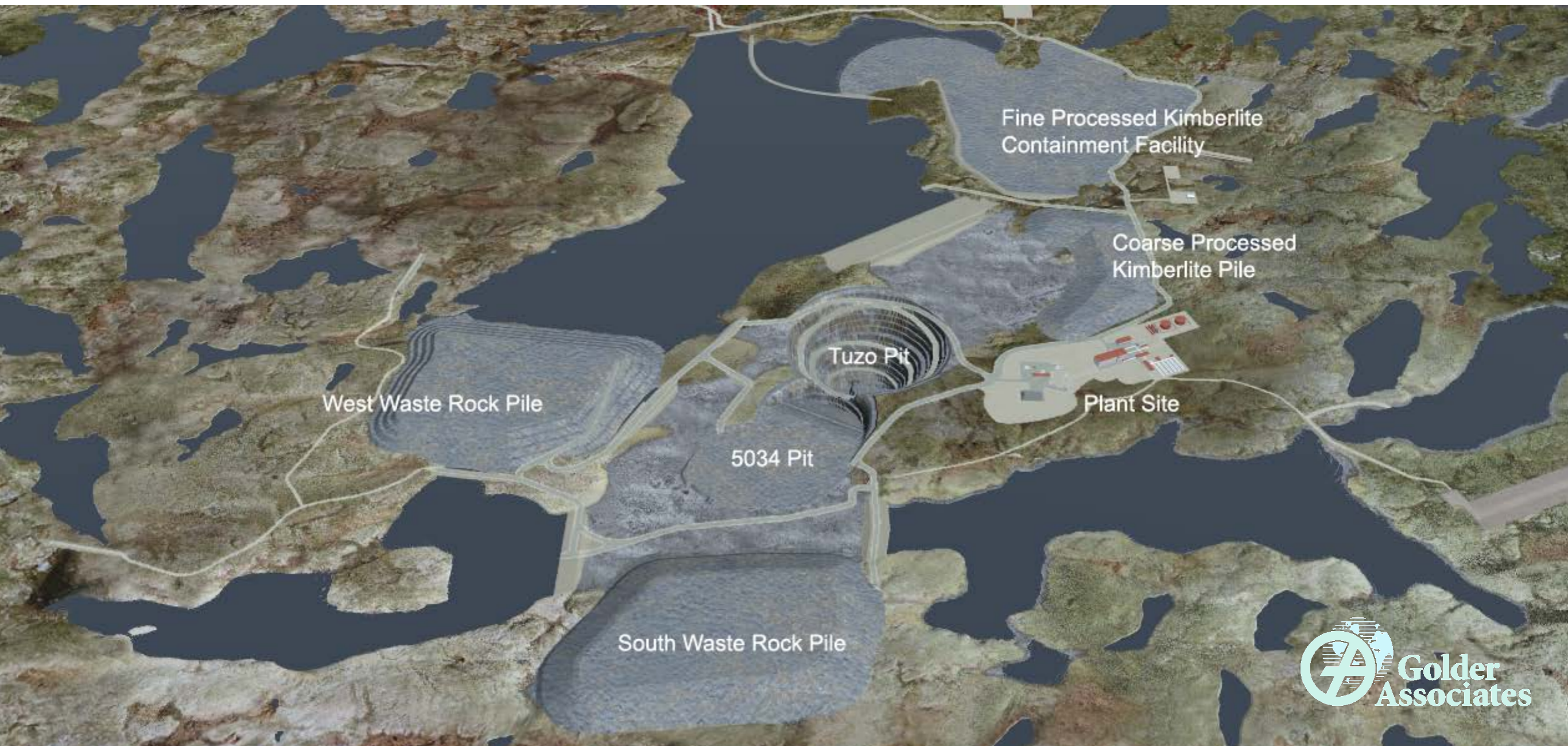
Augmented Reality

geo-referenced digital models visible in real-time viewers within the context of the project site.

Landscape Simulation

- Established technique that produces simulations that provide accurate and easily distinguishable representation of project components and effects

Geo-Browser

- Includes interactive digital interfaces for exploring maps and/or 3D conceptual models of project designs and landscapes that allows for an 'experiential-reality' effect for the user
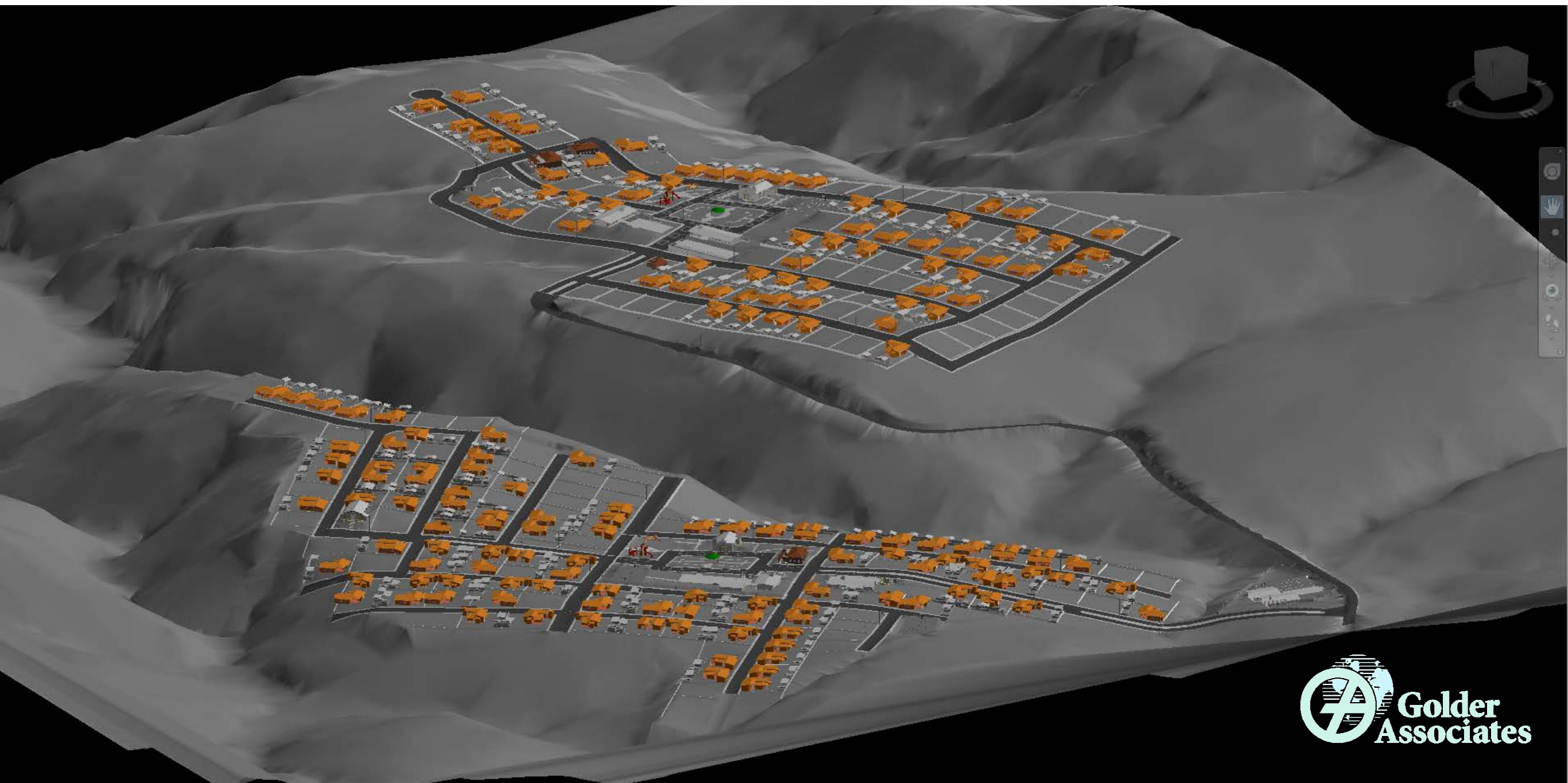
Augmented Reality

- New and advanced technique that uses geo-referenced digital models that can be overlaid in real-time viewers and presented within the actual context of the project site
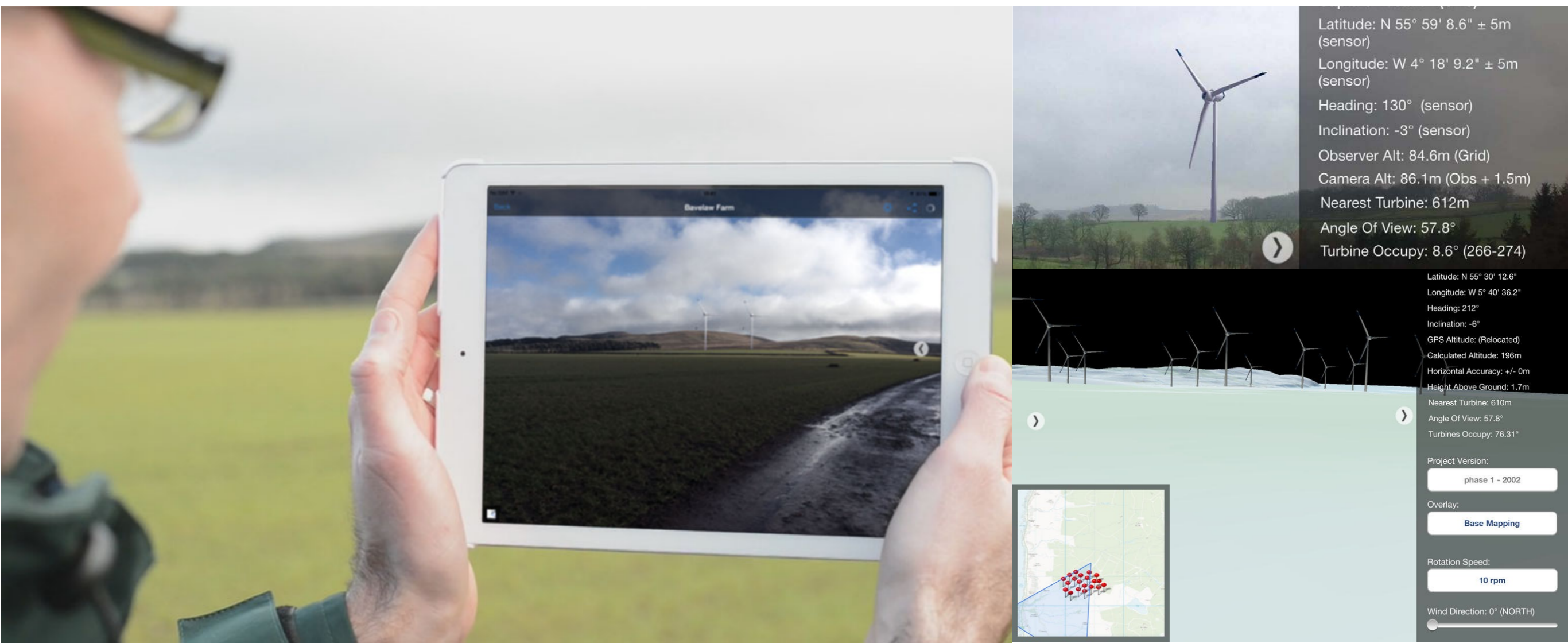
Risks & responsibilities of visualization technologies

- Highly dependent on the **quality** of data and the techniques used to develop them

- The ability to **influence** stakeholders' perceptions and judgment towards a project based on visual effect

- Adherence to procedural **guidelines** for the development and the ethical use of visualizations will help address concerns over validity and reliability

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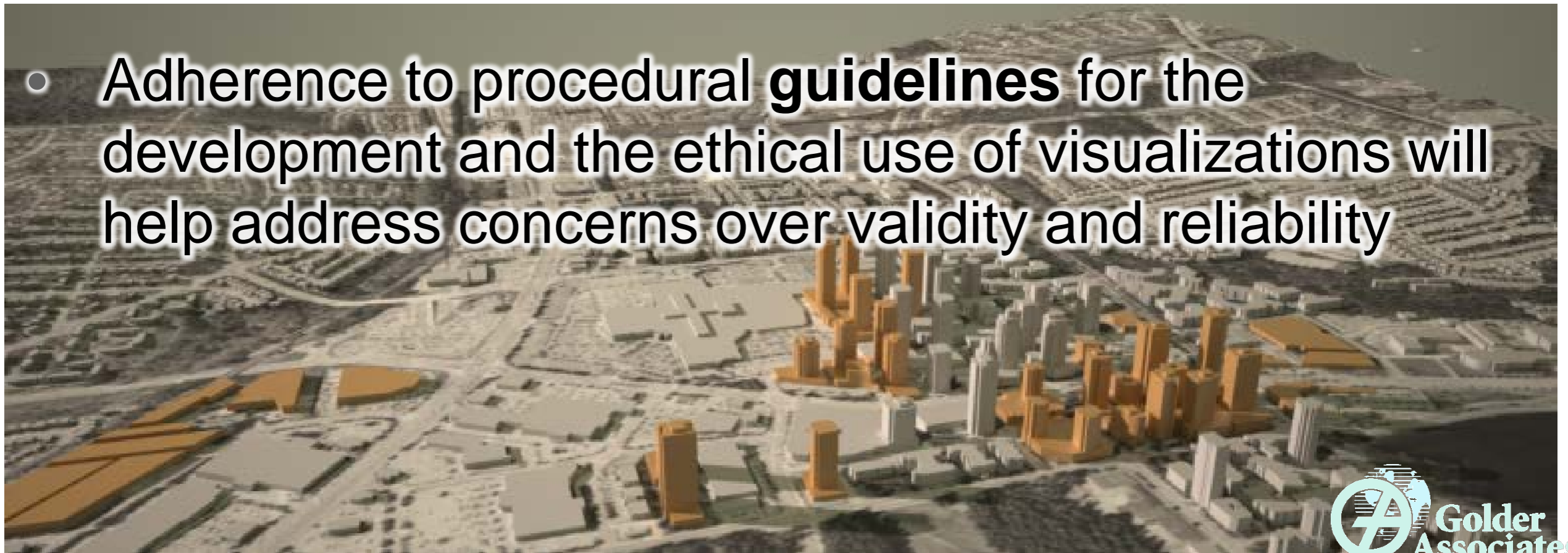
Conclusion & Summary

- Application of visualization techniques and technologies can increase the capacity to clearly communicate technical information to a broad audience

- Builds opportunities for improved project awareness and understanding of design and technical analysis

- Can contribute to the success of the ESIA processes and the likelihood of a feasible and appropriate project outcome

Questions & Comments