

**User name:** PT Hutama Karya (Persero)

**Project name:** Integrating subsurface model for efficient geotech data management in Trans Sumatera

**Location:** Pekanbaru, Riau, Indonesia

**Background:**

- Spanning 2,844 kilometers, the Trans Sumatra toll road is crucial for regional development, reducing travel times, facilitating trade and tourism, and enhancing connectivity.
- PT Hutama Karya played a major role in strategic planning, design, and construction management, specifically regarding geotechnical data management.

**Challenges:**

- Complex terrain, diverse soil conditions, and project scale presented challenges with managing and integrating the voluminous geotechnical data.
- Needed an advanced technology solution to streamline data workflows, enable 3D modeling, and support collaborative design processes.

**Solution:**

- Leveraging Bentley's Open applications with Leapfrog and PLAXIS, Hutama established a collaborative, model-based design environment and single source of truth for comprehensive management of geotechnical data.
- Used integrated subsurface models for robust geotechnical assessments to ensure roadway safety.
- The digital geotechnical database provided an invaluable asset for ongoing infrastructure management and future regional development.

**Outcomes:**

- Bentley technology helped the team collaborate and bring together data in a geospatial context and at scale, improving infrastructure delivery and performance.
- Optimized soil stabilization to save USD 185 million along the 40-kilometer toll road section.
- The connected digital ecosystem increased productivity by 15%, saving 6,000 work hours.

**Quote:** "By integrating Bentley software such as iTwin, Leapfrog, and PLAXIS, we aim to achieve efficient and effective geotechnical data management, thereby mitigating risks in extensive projects like toll roads. This marks the initial step towards realizing our ambitious dream of owning and managing a geotechnical data asset spanning the 2800 KM length of the Trans Sumatera toll road."  
– Halim Wiranata, BIM Manager, PT Hutama Karya (Persero)

**Image caption/courtesy 1:** PT Hutama Karya plays a major role in strategic planning, design, and construction management, specifically regarding geotechnical data management of the Trans Sumatra toll road. *Image courtesy of PT Hutama Karya (Persero).*

**Image caption/courtesy 2:** Leveraging Bentley's open digital twin applications, Hutama established a collaborative, model-based design environment and single source of truth for comprehensive management of geotechnical data. *Image courtesy of PT Hutama Karya (Persero).*

**Image caption/courtesy 3:** Working in a connected digital ecosystem increased productivity by 15%, saving 6,000 work hours. *Image courtesy of PT Hutama Karya (Persero).*

For more information, please contact Bentley PR at [PR@news.bentley.com](mailto:PR@news.bentley.com).