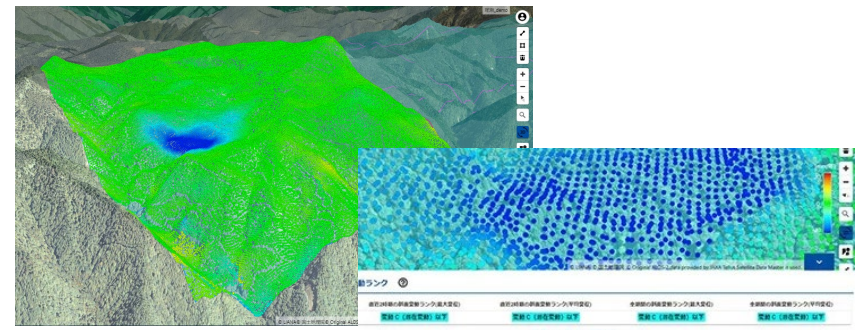


## Land deformation and Infrastructure ANALysis 『LIANA®』

- Web service that visualizes changes in slopes and infrastructure based on the results of analysis of SAR satellite images.
- Wide-ranging changes can be detected based on the historical data since 2014.
- Available to purchase from 1km<sup>2</sup> based on your demands. \*JAPAN Limited

Company name	Sky Prefect JSAT corporation/Nippon Koei/ZENRIN
Service Overview	<ul style="list-style-type: none"> <li>• LIANA is a web system that can monitor slight changes on the ground surface and infrastructure using SAR satellite data.</li> <li>• Available to grasp the mm-based changes whole world by utilizing satellite images, even before 2014 based on Sentinel data.</li> <li>• Trial from small area (1km<sup>2</sup>~) is acceptable for AOIs in Japan.</li> <li>• It is expected that management costs can be reduced and labor can be saved by using LIANA, since the system enables to narrow down areas that require investigation from a wide area.</li> </ul>
User	Construction consultants, Monitoring infrastructures
Satellite	ALOS-2, Sentinel
URL	<p>【Sky Prefect JSAT corporation】  <a href="https://www.skyperfectjsat.space/jsat/service/liana/">https://www.skyperfectjsat.space/jsat/service/liana/</a>          【Nippon Koei】 <a href="https://liana-mesh.com/">https://liana-mesh.com/</a>          【ZENRIN】 <a href="https://www.zenrin.co.jp/information/product/240321_01.html">https://www.zenrin.co.jp/information/product/240321_01.html</a></p>



● 道路	ルート選定の地盤リスク把握に、斜面・法面・盛土の観測に	● 河川	堤防の維持管理に
● 港湾	岸壁・堤防・消波ブロックの維持管理に	● 造成	周辺への影響評価に、造成後の維持管理に
● 都市	出店・宅地開発の土地リスク評価に	● 広域	定期的な地盤沈下観測に
● 山地	地すべりなど早期の変動把握に、対策工事の効果判定に	● 開発	地下開発における地表への影響把握に



発電所  
敷地内・敷地周辺地盤調査



集落  
土地の安全性評価



臨海部・埋立地  
沈下状況の把握



建設予定地  
測量・施設建設時の事前調査



盛土  
周辺影響評価・造成後の維持管理