## **ABOUT US**

The Norwegian Geotechnical Institute (NGI) has conducted geotechnical research and consulting worldwide for 70 years. Kongsberg Satellite Services (KSAT) is the world's leading supplier of Ground Network Services with a renowned earth observation operation.

Together, NGI and KSAT deliver a comprehensive InSAR service based on a streamlined collaboration for optimal data integration and optimization. The result is the unmatched ground monitoring service, Inio, where NGI and KSAT deliver the entire value chain from data acquisition to geotechnical analysis and risk assessment.

# What is InSAR?

InSAR is the science of extracting phase differences from electromagnetic radar signals enabling satellite observation of ground movements with millimeter-scale precision. The large footprint of the radar signal enables the tracking of spatial variations in movement over kilometers. The continuity of these images makes it possible to track movement over years and can help map past and future ground stability.

NGI and KSAT strive to elevate the use of the technology today to help ensure the stability of industry operations and enhanced societal safety.

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Inio is a service provided by NGI and KSAT with main offices in Oslo and Tromsø

### NGI

Sandakerveien 140 0484 Oslo, Norway +47 22 02 30 00 www.ngi.no

#### **KSAT**

Prestvannvegen 38 9010 Tromsø, Norway +47 77 60 02 50 www.ksat.no



#### UNITED STATES

DENVER 7600 E. Eastman Ave, Suite 415, Denver, CO 80231

HOUSTON 10615 Shadow Wood Dr, Suite 100 Houston, TX 77043 +1 281 752 4667

#### SCANDINAVIA

TRONDHEIM Professor Brochs gate 12 7030 Trondheim. Norway +47 22 02 30 00

STOCKHOLM Vretenvägen 2, Solna, Sweden +47 77 60 02 50

LONGYEARBYEN P.O. Box 458, NO-9171 Longyearbyen, Norway +47 79 02 25 55

#### AUSTRALIA

PERTH Level 7/40 St Georges Terrace Perth WA 6000, Australia +61 8 6559 6499



# **Ground monitoring from space**

by leading experts in geotechnical monitoring and earth observation

inio.ai





Inio is the service from NGI and KSAT helping you understand the ground by assessing stability from space with InSAR.



A complete land monitoring service focused on providing maximum value to clients worldwide saving costs and mitigating risk.

Everything streamlined for geotechnical analysis

> Remote sensing team works directly with and develops our solutions for geotechnical consultants.

We have expertise in all methods of monitoring

> We can advise you on the best monitoring solution and will only sell you what will maximize value.

You only communicate and work with experts

Direct access to the inio team to ensure optimal data analysis and results.

#### PROVIDING OUALITY

Quality ground motion tracking reguires high expertise. Inio is the ideal service seamlessly provided by leading expertise within earth observation and geotechnics.



#### SAVING COSTS & REDUCING RISK

Small movements of the ground can be indicative of instabilities that can lead to costly or hazardous conditions. Early detection by satellites (InSAR) can help mitigate risk and save costs.



Instant access to most recent satellite analysis through a powerful web interface for InSAR data interpretation by customers and NGI expert geotechnical engineers.

### SERVICE FAST DATA DELIVERY

Inio provides data through KSAT's global antenna network

KSAT provides down-link services derived from an extensive portfolio of commercial satellites resulting in seamless data download and processing and rapid updates of ground motion products.



#### ANALYSIS AND DELIVERY

The newest InSAR data is rapidly processed and made available in the client web interface enabling best possible decision-making at any given time.



NGI

Data integration Processing Interpretation

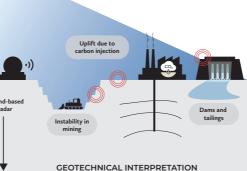


geotechnical engine

## DATA INTEGRATION

Inio integrates sensor data from live monitoring in the analysis

Ground motion monitoring with InSAR can be augmented by on-site instrumentation and ground-based remote sensing installations providing alerts or early warning.



NGI provides expert geotechnical consulting based on InSAR data

We help you understand the underlying causes and geological conditions responsible for the motion. We provide expert consulting on risk assessment and mitigation efforts.



Live monitoring by installed sensors on-site

## **APPLICATIONS**

We have 15+ years experience providing InSAR monitoring for a variety of geotechnical applications seamlessly integrating InSAR results with on-site instrumentation and live monitoring. We utilize InSAR in combination with geotechnical data to enhance the expert consulting by NGI.











