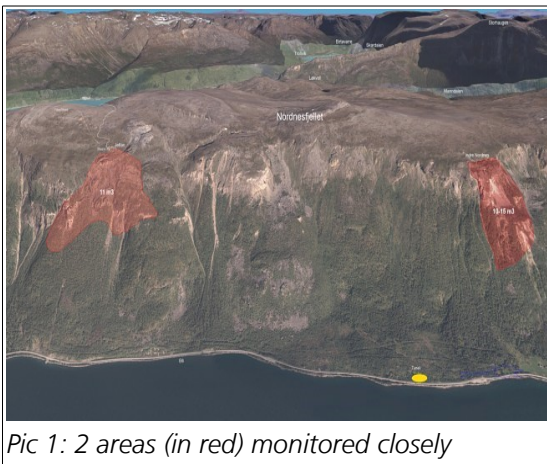


ROCK SURVEILLANCE TSUNAMI WARNING

Industry: Geodesy
Application type: Monitoring

Brief description



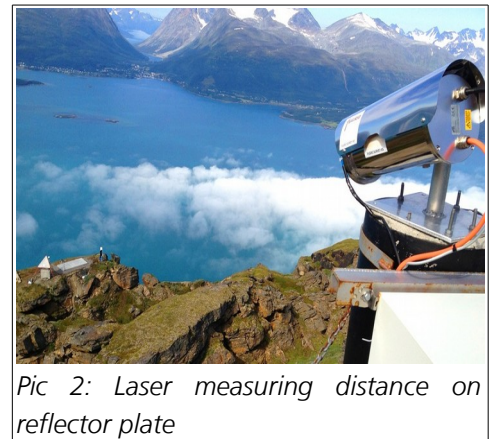
Pic 1: 2 areas (in red) monitored closely

Across the bay is Nordnesfjellet. On the hillside is Jettan, a volatile mountainous area that is 350 meters wide, 400 meters long and contains 11 million cubic meters of rock. It is probably the world's most heavily guarded mountain. But people who live here are not frightened of that mountain that sooner or later will trigger a tsunami.

Altogether there are four to five independent systems which all confirms the same: Jettan is about to detach from the parent rock, with a speed of around five centimeters a year.

There are parts of the mountain Jettan left of the Pic. 1 being monitored closely, but also an area of Inner Nordnes is moving. Up on Jettan three Distance Laser Sensors are set up. They measure every day the distance to a reflector plate that stands out on the block that is in motion. The inhabitants are warned in the event of a landslide in order to get themselves to safety before the caused tsunami hits.

A tsunami is a serie of fast moving waves in the ocean caused by powerful earthquakes or volcanic eruptions. A tsunami has a very long wavelength. It can be hundreds of kilometers long. Usually, a tsunami starts suddenly. The waves travel at a great speed across an ocean with little energy loss. They can remove sand from beaches, destroy trees, toss and drag vehicles, damage and even destroy whole towns. Tsunamis can also be caused by meteorite impacts.



Pic 2: Laser measuring distance on reflector plate

Customers advantages

- Measuring range 0.05 up to 500 m
- Accuracy ±1 mm
- Repeatability ±0.3 mm
- Extended operating temperature
- Solid metal case IP65
- Supply voltage 9V CD – 20V CD



Products used

FLS-C series

The FLS-C distance measuring device measures absolute distances up to 500 meters on reflective foil without contact. Due to most innovative laser technology the FLS-C has a unique accuracy of ± 1.0 mm. A further advantage of the FLS-C is the quick determination of the positions of moving objects.

The FLS-C is an optical distance measuring device. It measures, maintenance-free, distances up to 65m on natural surfaces. It determines positions of objects that are difficult to access or may have very high surface temperatures. Just as easily, it accurately measures distances in hazardous environments.

The FLS-C is designed to be suitable for both, heavy industrial and outdoor applications. It is constructed of a solid metal case and provides class IP65 environmental protection. **It represents a cost efficient solution even at extreme environment temperatures as low as -40° C.** Furthermore, various features make it flexible for multiple applications in numerous industries such as automotive, paper, metal and textile.

Specification

- Measuring range 0.05 up to 500m
- Accuracy ± 1.0 mm
- Repeatability ± 0.3 mm
- Extended operating temperature
- Solid metal case IP65
- Supply voltage



For new projects we recommend our **D-Series**. Further information can be found [here](#).

For more information please contact us on application@dimetix.com

