helping to monitor the stability of critical infrastructure objects in order to ensure public safety in a cost-effective way

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DATEL®
EMPOWERING SMART COMMUNITIES

infrastructure asset monitoring - SILLE

Main functionalities/Main features:

- e-Service enables to monitor the subsidence or uplift of infrastructure based on satellite data.
- Detects early warning signs of critical infrastructure
- The trustworthy method, the results are repeatable
- Historical Analysis, the opportunity to look back in time-data from 2014
- High accuracy measurement comparable to geodetics
- Trend analysis of the whole region, not only individual object

Key benefits:

Cost-efficient. Subsidence and deformation monitoring is largely performed manually today by engineers who must go on-site to an e.g. a bridge or a dam and depending on the size of the structure and area, spend a few days, a week or longer, measuring levels of subsidence and deformation by hand. This is costly and even more so if the area that needs to be measured is e.g. 1km2, 10km2 or 100km2.

Target groups:

Our clients include Large Private Corporations, Public Sector Companies, and Government institutions from different business sectors: Defense structures, Educational and Research institutions, Engineering and Manufacturing Companies, and many others including the European Space Agency, US Federal Emergency Management Agency, The White House, Eastman Chemical, Schnabel Engineering, Estonian Land Board, Enterprise Estonia, Estonian Road Administration, Estonian Ministry of the Environment, Tallinn City.

Value created:

Environmentally friendly solution- less CO2 emissions. The remote monitoring system significantly reduces the number of trips to objects without problems.

References:

- **Government organizations** use Sille to monitor and detect deformation of bridges for early renovation and helps to focus budgets to most structurally deficient assets.
- **City authorities** use satellite-based monitoring to detect building deformation, hazard zoning, and rebuilding priorities.
- **Engineering companies** use Sille to monitor the stability of embankment levels (floodwalls) to find parts of the levels that could break during high water flows and repair them in advance.
- **Energy Corporations** use Sille to monitor dam stability at one of the biggest hydroelectric dams in Europe to find out portions of the dam that needs repairs. Energy companies are also using Sille to regularly monitor and assess ground deformation from underground mining, to increase the safety of their operations and stability of high pile ash/dirt waste walls for environmental and business concerns.
- **Mining & Metallurgy** monitors the stability of tailing dams to enhance safety and find dams that need repairs or will be closed. Sille monitors stability of open-pit mining slopes, to secure unstable slopes and ensure that employees are safe in remote areas.
- **Real Estate** monitors building deformation and subsidence throughout the entire construction life cycle (pre, during, and post-construction).
- **Chemical Corporation** use Sille to monitor the stability of one of its production plants, to find hidden deformation which can damage pipeline connections, and danger structural stability.

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