

Gasum Now! - service for the Finnish pipeline company

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As a part of the Auroras Now! - service development activity, the Finnish Meteorological Institute is maintaining and further developing a service targeted for Gasum Oy, the owner of the Finnish natural gas pipeline system. The main parts of the service are:

- 1) Nearly real-time estimates of pipe-to-soil voltages and geomagnetically induced currents (GIC) at several sites along the pipeline. They are calculated using geomagnetic data from the Nurmijarvi Geophysical Observatory, a layered model of the earth's conductivity, and a DC model of the pipeline system. Real-time service is partly restricted for Gasum's use only.
- 2) Public presentation of the measured GIC at one site in the middle of the pipeline network.
- 3) General public presentation of the GIC phenomenon with various illustrations of real events.

The methods used to calculate the real-time geoelectric field and GIC are strictly validated and published in international journals. The Gasum Now! service started in the operational test-mode in June 2003 and has worked without major problems. Log files and the customer's feedback are used to further develop the system. A similar service is in principle possible to install also for any other power or pipeline networks.