

LOCATION: BOLLEBYGD, SWEDEN

# Securing comfort in spite of vibrations caused by trains



## Comfortable living - essential for attracting new residents

Bollebygd, a small community in southeast of Sweden, has plans for new dwellings near a rail line. The area is called Flässjum and features an attractive neighbourhood with a park, a multi-activity centre and commercial services. Ensuring a good night's rest for future residents means that train-induced ground vibrations must be monitored. Modern trains are continually being designed for higher and higher speeds and railway carriage vibration problems are on the increase.

## Experts from ÅF-Ingemansson analyses – INFRA measures

The vibration problems associated with trains, subways and road traffic can often be avoided by selecting suitable

construction methods. In order to create a qualified decision basis for construction of new houses, ÅF-Ingemansson was entrusted to investigate noise and vibration levels at relevant locations in the Flässjum area. For vibration measuring, two INFRA Master systems with four measuring points were used. During a one week period, two Digital Vertical Geophones and two Digital Triaxial Geophones measured vibration levels from passing trains. Measurements were made in accordance with the SS 4604861 standard measurement guidelines for the evaluation of comfort in buildings.

## Remote control saved a lot of travel and time

In any measuring setup, suitable triggering levels must be identified and entered

into the control unit. In equipment from competing vendors, this must be done on site, which means a lot of travel costs and unnecessary time. INFRA facilitates remote setup of trigger levels, a feature that was used twice in the measurement process for the Bollebygd community. "Works very well" says Johan Hässel, Consulting Engineer at ÅF-Ingemansson and responsible for the assignment at Bollebygd.