

# SBB Vibration measurement

## Driving- comfort optimized

- 288 ADC measurement channels
- Measurement data filtered in real time
- Up to 5 kHz sampling rate, 14 bit accuracy



### The application

In order to optimize ride comfort and the stress on the track and rolling stock, SBB has developed a measuring system that can record vibrations and forces on the vehicle body and running gear. The system consists of up to 18 measurement boxes, each with 16 ADCs, which are distributed over an entire train composition. The knowledge gained from the measurement results is incorporated into the development and design of the vehicles as well as the track.

### The system

A single Indel INFO-SAM2 fieldbus master records the values of all 288 measuring channels with 1 ms cycle time. The measuring ranges of all channels on one measuring module are freely configurable. The sensor feeds are measured

during operation to compensate for temperature drift. This also allows ratiometric sensors to be operated and the measuring accuracy is improved to 14 bits.

### Standard control system

One of the decisive factors for using an Indel control system was that the measuring system is based on a standardized and proven control system. This approach keeps the project costs low and accelerates the development time significantly.

**Travel comfortably and safely thanks to Indel Automation.**