A licensee sought for a special device for exciting stringed tensometric sensors

Development status

Phase 4

The transition from the prototype to the final and fully functional form. At this stage, the prototype is already fully tested, or the technology is certified and ready for mass deployment.

IP protection status

Patent granted for the Czech Republic. Patenting in other countries not applicable anymore.

Partnering strategy

licensing

Challenge

Monitoring of building construction years after its completion might be difficult. Built-in sensors in buildings are usually connected to specialized proprietary devices that might be obsolete after years and often not supported by the original suppliers anymore. The Czech university researchers offer device measuring mechanical tension using string tensometric sensor that bring value to potential customers by simplifying and streamlining the process of monitoring old building constructions where such obsolete type of sensors are historically built-in (dams, bridges and building construction in general). The device is able to excite the current types of sensors. This is a versatile device that can automatically adapt to the sensor. An example of usage of the offered solution is the monitoring of water dams, bridge, and other building structures, where one such device can replace a number of old incompatible devices.

Description

This device is equipped by two-wire connection and automatic setup. The system works on the principle of measuring the damped oscillations of sensors with synchronized excitation. Those pulses are generated by the processor, which in response to the properties of the connected sensor adjusts their amplitude, number, period and rate. The processor also controls the entire behavior of the wholes system thus considerably enhancing its flexibility.

Commercial opportunity

Based on the market research, there is not any other such device on the market. Currently used solutions are based on already built-in sensors in buildings during their construction phase. Using conventional measurement methods would require physical mounting of new sensors into existing constructions, which is often technically impossible due to specific environment (e.g. water dams).

Institution

Czech Technical University in Prague