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KRABO - Sensorized IoT bolts for monitoring bolted joints

Bio

Simone Aiassa received BSc, MSc, and PhD degrees in electronic engineering with Politecnico di Torino, in 2014, 2017, and 2021, respectively. Since 2021, he is R&D Engineer at Fontana Gruppo and principal electronic engineer for Krabo, developing the KRABO® Networking Bolts. From 2017 to 2021, he worked as PhD Student with the DeT and with the EPFL in Lausanne, studying embedded systems for biomedical applications. In 2020, he was the Chair of the Politecnico di Torino IEEE Student Branch. He is the author of 15 academic papers and 2 patents. His interests include embedded systems, low-power electronics, and sensor networks.



Abstract

KRABO technology transforms standard bolts into internet-connected fasteners for remotely surveying bolted joints in critical infrastructures. These innovative bolts are based on sensors that are fully integrated into the bolts, able to measure the clamp load and send the data wirelessly to the cloud at any given second. KRABO® bolts are a real alternative to standard bolts. The technology monitors the bolted joint at any time and identifies issues before they become a problem. These predictive maintenance capabilities help enhance safety and reduce maintenance costs. There are countless applications for this technology: buildings, roads, railways, vehicles, machines, and other infrastructure scenarios where safety is crucial. The talk will introduce KRABO® Networking Bolts, showing an example of successful R&D activities and how the research is performed in the industry world.

