Challenge

ACOUSTIC DATA LINK:
Ultrasound-based energy & data transfer through metal

Wireless communication through metallic walls of fully closed structures is a very challenging topic. TDK reveals a new technology – fully compliant with RFID / NFC standards - using acoustic waves to transfer energy and bidirectional data through metal walls, called “Acoustic Data Link” (ADL). In this challenge, we want to engage with potential customers, find new applications and understand different constraints to properly specify future products.

Industry Partner

TDK Attracting Tomorrow

TDK is a world leader in electronic solutions for the smart society by resolutely remaining at the forefront of technological evolution and deliberately "Attracting Tomorrow." TDK's innovation-driven portfolio features passive components (capacitors, magnetics, high frequencies, piezo & protection devices), sensors and sensor systems as well as power supplies, energy devices, magnetic heads and more. TDK employs over 117.000 people worldwide and posted a total sales of USD 15.6 billion in fiscal year 2022. This challenge is supported by TDK’s European Research & Development Center.

Mission

- Hands-on deep dive into the **technology of acoustic data link**, RFID and NFC, based on available samples and demonstrators
- Look for **potential applications**, requiring through metal energy + data transfer and understand their constraints and requirements.
- Build up **demo application prototypes** for selected applications using TDK ADL Modules for energy and data transfer.
- **Evaluate TDK ADL performance** in real applications context and suggest improvements.