

# **Difficulties in Emerging Battery Technology Testing**

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## **Abstract**

With the industry pushing for electrification of vehicles, comes a push for new battery designs. As with any new design, these new batteries need to be tested to determine if they are fit for release and meet, or surpass, specifications equivalent to other competitors on the market. Battery testing equipment can be expensive, so many battery manufacturers turn to test houses and their capabilities in battery testing. However, with a test house being an external company to the battery manufacturer, the manufacturer needs to decide what information they are willing to share with the test house and what they want to remain proprietary. This can make testing a battery difficult, if not impossible, for the test house. From the design of physical connections for charging and cooling, to software calculations communicated over the battery's CAN network, test houses are having difficulties in successfully testing new batteries.

## **Keywords**

Battery Testing, Battery Charging, Battery Cooling, Battery Communication

## **Biography**

**Ms. Kayla Buczkowski** is currently employed as the Systems Engineer leading Test & Validation at EAVX, a JB Poindexter Co. business unit. She is also pursuing the dual Master's program of Engineering Management and Industrial Engineering at Lawrence Technological University along with her Professional Engineering license in Mechanical Engineering. She graduated from Michigan Technological University in May 2018 with a Bachelor's of Science in Mechanical Engineering, minoring in Music Performance.

Her role at EAVX primarily involves planning and executing all testing related to the integration of electric and autonomous technologies with commercial vehicles, validating them prior to production. Ms. Buczkowski previously spent five years with A&D Technology, where she became one of the company's experts in battery testing, engine testing, and hardware-in-the-loop testing. She integrated their data acquisition and control software, known as iTest, with various pieces of equipment to test prototype and production products.

Ms. Buczkowski also accumulated an additional two years of design and testing experience through internships and co-ops during her undergraduate studies. During her time attending Michigan Tech in Houghton, MI, Ms. Buczkowski performed with the Keweenaw Symphony Orchestra, serving as principal percussionist for four of her five years. As a final project for her Music Performance minor, she conducted a song with the Keweenaw Youth Symphony Orchestra. After graduation, she has maintained her appreciation for music performance and currently plays with the Dexter Community Orchestra.