

V2X Bidirectional EV Charging Leader Uses Waterjet to Reduce Costs

By Chris Cardinal



Founded in 2010, [Fermata Energy](#) is the leader in successful electric vehicle-to-everything (V2X) bidirectional charging systems. V2X includes vehicle-to-grid (V2G) and vehicle-to-building (V2B) projects. It was the first company to have bidirectional charging systems commercially deployed in the U.S. for light-duty vehicles, and the first to have fleet customers earn revenue from bidirectional EV charging.

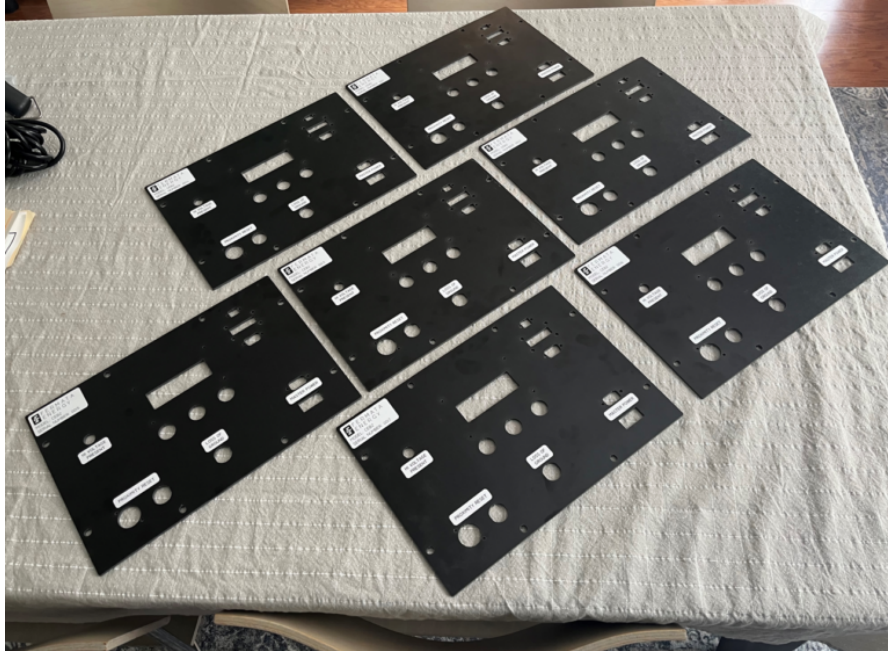
Creating and perfecting a new technology such as bidirectional charging for electric vehicles requires innovation, as well as extensive iteration. With a heavy emphasis on prototyping, the design team works on hardware issues and production challenges as well.

Director of Hardware Brian Maddox has been using the [WAZER](#) for more than 2 years to “do things we couldn’t do before.” For example, working with high voltage current requires a suitable insulator, and the best material for the job is a phenolic resin-based material that is highly abrasive to metal tooling, and delaminates easily. Brian was quick to point out the WAZER is “phenomenal” cutting this material, leaving clean edges and cutting holes with perfect accuracy.



A cut that would have taken 3 hours by hand and could not be repeated can now be reliably cut over and over in less than 20 minutes on the [WAZER](#), reducing the labor time by 90% while improving product quality immeasurably.

The WAZER has been especially useful for prototyping, low volume production, templates, and test fixtures in various metals and plastics. It turns around prototypes in any material, and as Brian pointed out, "I run it on the [WAZER](#) to save time and for the repeatability."



“We saved over \$60k and 800 hours of labor using the WAZER”

In their most extreme case, the WAZER literally paid for itself 6 times over on a single job by keeping the work in-house. As Brian explained, “One project in aluminum took 4 hours to cut by hand, but only 4 minutes on the WAZER. It would have required a \$315 tool for each, and we needed 200 of them. We saved over \$60k and 800 hours of labor.”