LITHIUM-ION BATTERY RECYCLING PRIZE

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Submission Title:	Utilizing Laser Cutting for Efficient Battery Pack Dismantling
Submission Track:	Track 5: Other Ideas

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SPIERS NEW TECHNOLOGIES

Concept

- Spiers New Technologies (SNT), as the industry leading provider of advanced vehicle battery services for life cycle management of automotive lithium ion battery packs.
- Current advanced vehicle battery packs were not designed for aftermarket and servicing in mind. Access to battery pack modules to prepare for recycling is difficult due to large amounts of bolts fastening the battery pack casing.
- SNT will develop an efficient method utilizing laser cutting to access battery modules inside battery pack casing by cutting around the multitude of bolts cleanly and efficiently.

Approach

- Spiers New Technologies (SNT) develop a process method utilizing laser cutting to cut around the bolts fastening automotive battery pack casing.
- Individualized cutting process flows will be developed to account for the varied types of automotive battery pack form factors utilized.
- SNT will develop a process that is efficient and safe to increase the amount of battery modules that can be accessed for recycling.

Potential Impact

- An average automotive LiB pack casing can contain over 100 individual bolts that need to be removed cleanly in order to access the battery modules.
- The time efficiencies gained through the use of laser cutting around the bolts will lead to substantially higher volumes of automotive LiB packs to be recycled at a faster rate.
- Through time efficiency gains realized by not manually removing bolts, financial returns increase, therefore leading to a more positive value stream for the recycling of lithium ion battery packs.