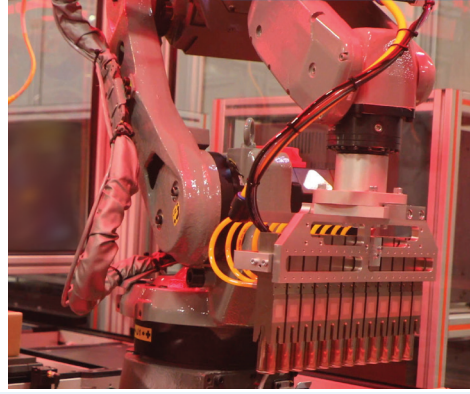




# Let's talk about... High-Speed Automation for Cylindrical Cell Management and Sorting

CASE STUDY



## High-Speed Automation for Cylindrical Cell Management and Sorting.

### Challenge

Manufacturers using cylindrical cells in their EV or energy storage applications are challenged by the need to test and sort thousands of cells in the manufacturing takt time of a single battery pack. The purpose of cell testing is to identify and discard reject cells as well as to characterize and sort cells by cell voltage to provide battery packs with equivalent performance. A tight coupling of the machine control system with the factory MES infrastructure to ensure battery performance traceability to the cell level is important in these safety critical applications. Floor space is also a primary consideration for automation being deployed to meet these challenges.

### Solution

ATS engineered and delivered multiple standard cell test and sort systems, each able to process over 1200 cells per hour to address the need for high speed cell testing and sortation. At under 1,200 sq ft, the ATS solution for cell test and sort is a compact solution which can be readily deployed for customers using 18650, 21700 or 26650 cells in their battery pack products. With in production OEE levels of considerably over 90%, the ATS solution to cell sortation is both robust and efficient.

Tray based cells are transferred to high speed handling automation and then placed back to trays after being sorted for battery performance level. Upstream and downstream of the automation, ATS tray handlers offer a cost effective tray stacking and destacking solution while the integration of AGV transport to move cell tray stacks to the next production step is an efficient option which can be delivered by ATS.

The test instrumentation connects with each cell via robust industrially hardened connectors with 4 point Kelvin connections being used for each cell while the ATS Test Executive™ software provides visual control and data management for the test process. High speed data networks connect the machine with the customer MES system to establish a birth certificate for each serialized cell and then repopulate the data record for the cell after the test and sort process is complete. The ATS IlluMInate™ Manufacturing Intelligence software is used to provide complete I4.0 capability related to machine performance, maintenance and quality control. While the approach to cell test and handling has been standardized, ATS can tailor the solution to each customer's individual needs.

### Results

5 lines delivered. >95% OEE.

If you would like to contact an expert, please click here.

LET'S TALK

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