

## **Charging-capable Li-ion Autonomous Safe Storage Interservice Container (CLASSIC)**

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Current air and sea shipping regulations for lithium and lithium-ion (Li-ion) batteries significantly impact operational readiness and warfighting ability of the Department of Defense (DoD). On January 15, 2016, the International Air Transport Association (IATA) limited the state of charge (SOC) for Li-ion batteries in shipment to 30%. Since batteries are not universally stored at 30% SOC, they often must be discharged before shipping, then recharged once received and prior to use. Special discharge and charging equipment is required, and the process is time-consuming (12 hours per battery or more for some systems). Multiple commercial transport aircraft have been lost or severely damaged by lithium-ion battery fires in recent years. A technical solution is needed to both ensure platform risk is minimized and to allow deployed forces to receive fully charged batteries. The Charging-capable Li-ion Autonomous Safe Storage Interservice Container (CLASSIC) will expand on past Army funded Li-ion container development work performed by Naval Surface Warfare Center Carderock Division to design and produce a standard footprint container capable of transporting, charging and storing various man-portable Li-ion batteries safely on aircraft and other DoD platforms. The container will incorporate variable charging equipment, sensors capable of detecting battery failure and fire, and passive and active measures to prevent propagation of failure to other batteries stored. The container will also contain the effects of a Li-ion battery fire (evolved gas, smoke, flames) and prevent damage to personnel, adjacent equipment, and the platform. By designing within a standard container footprint, this solution will be immediately usable by all Services with minimal training and procedure modification required.