

EIC current efforts are sponsored by:

1. Navy SBIR Phase II and II.5 projects
2. Sponsoring Program 1: PMA-265 Program Office for Multi-Mission Tactical Unmanned Aerial Systems (UAS)  
Transition Target: F/A-18 E/F Super Hornet aircraft
3. Sponsoring Program 2: PMA-266 MQ-8 Fire Scout Program Office for Unmanned Aviation and Strike Weapon  
Transition Target: MQ-8 Fire Scout

### Advantage

EIC specializes in power sources for military and commercial applications and has successfully developed a lightweight 28V Li-ion battery for Army aircraft. EIC provides full Li-ion battery systems development, including larger sizes, to fulfill military aerospace requirements. Batteries are custom-designed to accommodate specifications of energy density, capacity, voltage and current. Batteries can be designed with special form factors and have integrated electronics to prevent overcharge and to indicate state of charge and residual life.

The EIC 28V Li-ion battery provides high power to aircraft for a fast engine start and high energy for longer aircraft get-home time in case of a power emergency. The developed battery technology, a drop-in replacement for currently used batteries on Army and Navy aircraft, eliminates potential thermal propagation. The 160th SOAR MH-47 helicopters are currently flying with EIC's 28V Li-ion battery. EIC markets new products directly to the Department of Defense.



MH-47 Chinook

Courtesy of U.S. Army photo by Sgt. 1st Class Michael Noogle

### Contact Us

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*ElectRelease™*



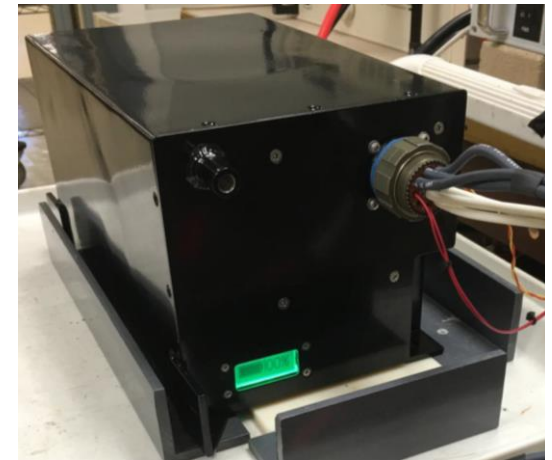
*Portable Raman*



*Portable Gas Indicators*



*Safe, reliable and lightweight power source*



*F/A-18 Li-ion 28V/25Ah battery*



*Portable 28V/20Ah Voyager for engine start*



## Company History

EIC Laboratories, Inc., located in Norwood, Massachusetts, was formed in 1971 to provide research, development, and engineering in the physical sciences. EIC Laboratories is a broad based, technology innovation company developing solutions to problems in energy and defense. EIC Laboratories offers government and corporate clients an accomplished research and development team, an extensive portfolio of technologies, and a modern, well-equipped laboratory facility.

The company occupies 40,000 square feet including facilities for engineering design and manufacturing. The growth of EIC, a privately owned company, has been internally generated through expansion into new technical areas and through production and marketing of products developed by the company.

## Mission/Vision Statement

EIC Laboratories' goal is to convert research results into new products and processes that form the basis for business ventures. EIC is an experienced government contractor, providing research, development and services to a broad range of sponsors including DOD, NASA, NIH, DHS, DOE, and EPA. EIC Laboratories also seeks mutually beneficial business relationships through licensing, sponsored R&D and, where appropriate, OEM arrangements. The company is open to a range of contracting options, technology licensing and transfer agreements, and has a history of teaming with prime contractors, universities and national laboratories.

## Core Competency

Since its inception, EIC Laboratories has been committed to converting new research into products and processes. Examples of EIC's achievements include:

- The first portable Raman spectrograph for chemical identification of hazardous materials through glass; highly efficient, market leading fiber optic Raman probes.
- Implantable electrode coatings providing safe, high charge density injection for functional electrical stimulation (prosthesis).
- Basic patents on high strength adhesives that can be electrically released (ElectRelease™).
- A modular design for lithium ion batteries developed for the 160th Special Operations Aviation Regiment (SOAR (A)).



*EIC 28V/30Ah Li-Ion Aircraft Battery for 160<sup>th</sup>*



*EIC 28V/25Ah Li-Ion Battery for Navy F/A-18*

Courtesy of US Navy 160617-N-UU859-031 JUN 2016

## Battery Technology

Batteries are used in vehicles and advanced aircraft electrical systems, in a wide variety of weapons systems and guns, in drones and robotic vehicles, and to provide energy storage for expeditionary units. In comparison with older lead-acid and nickel-cadmium batteries, Li-ion batteries offer significant advantages including decreased weight and increased capacity. Additionally, Li-ion batteries extend operating cycle life, minimize maintenance costs, and enhance performance over currently used batteries. The successful development of safe Li-ion battery systems for military aircraft implies that a substantial part of the commercial aircraft battery market could be taken over by lithium-ion battery technology.



*Army helicopter Li-ion 28V/20Ah battery*

## Navy and Army Customers

EIC Laboratories has successfully used a modular battery design to develop a safe lithium ion battery for the 160th Special Operations Aviation Regiment (SOAR (A)). The MH-47G helicopter has received an airworthiness release (AWR) for operation with the EIC 28V/30Ah Li-ion battery in 2010. The goal was to reduce battery weight while improving output, reliability, and maintainability of the currently-used RG11-1/500 SLABs. The Army 160<sup>th</sup> SOAR (A) MH-47G Helicopters are currently using dual 28V/30Ahr EIC Lithium Ion Batteries as the Main Aircraft Batteries and M-134 Mini-gun Batteries.

EIC Laboratories has developed a safe, lightweight, Li-ion 28V aircraft battery where potential thermal instabilities have been eliminated. EIC is currently developing 28V aircraft Li-ion as a drop-in replacement for currently used SLAB batteries on the FA-18E/F and MQ-8 Fire Scout aircraft. The battery will be maintenance free.