

Leading through innovation and services

Mathyas Petit, Director, International Defense & Security Business Development, Bren-Tronics

Bren-Tronics has cumulated over 49 years of experience in the design, production and management of complex and intelligent rechargeable batteries for diversified military applications. Always state of art, the company continues to innovate to provide the perfect match between power, energy, weight and safety for the growing diversified demands and applications.

Bren-Tronics Brenergy™ 6T Vehicle Battery: **A clear choice for many NATO vehicle manufacturers**

The current solution using an array of lead acid batteries (in some cases up to 20 batteries) was unable to meet the growing military power demands on-board of modern combat vehicles. The space required for all the lead batteries competes with mission critical requirements, such as technology and personnel, while the weight of these batteries stresses other components on already taxed platforms.

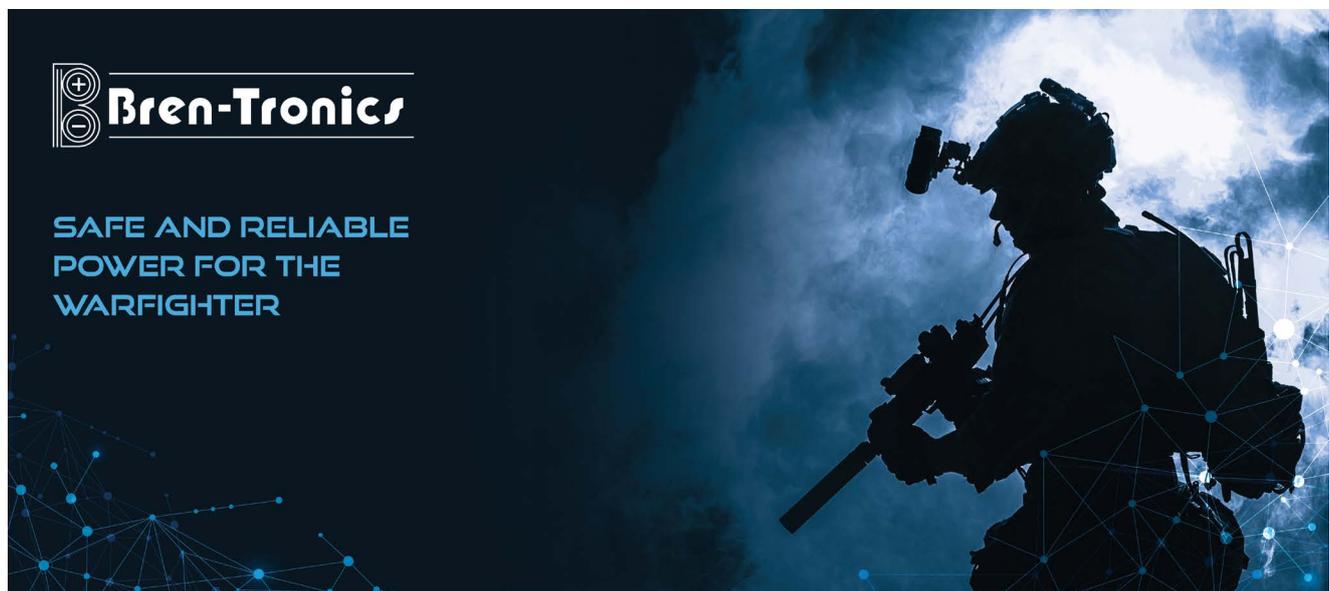
Designed with the military tactical vehicle requirements in mind, Bren-Tronics introduced the first Li-ion 6T battery in 2015, prior to the MIL-PRF release from U.S. Army's Combat Capabilities Development Command (CCDC) Ground Vehicle System Center (GVSC). There are more than 4,000 of these batteries in use today worldwide addressing the three



Bren-Tronics MIL-PRF-32565C compliant Li-ion 6T Brenergy™

basic requirements of military vehicle manufacturers and customers: energy, weight and space.

A single Bren-Tronics 24V 6T replaces at least two of the 12V lead acid batteries used today, cutting weight and volume in half, while meeting and exceeding on-board power requirements. The battery can also be fully charged in less than one hour and provide power for multiple loads. Several batteries can run in parallel for extended silent watch missions.





UGV using Bren-Tronics 6T battery. Nexter robotic ©

More recently Bren-Tronics delivered the first type 2-B90 (highest capacity) fully compliant to the latest release of MIL-PRF 32565 Rev C. The Bren-Tronics compliant battery meets not only the extreme cold temperature cranking requirement and the stringent high temperature cycling test but also the very rigorous safety testing of the MIL-PRF-32565C. The Bren-Tronics high energy 6T version provides 138Ah with a nominal energy capacity of 4.2kWh, and the high-power version provides cold cranking up to 1100A at -18°C and 400A at -40°C power version (with no preheat required). Both batteries provides smart data communication through CAN Bus communication available at all times.

This Lithium-Ion battery is the result of years of development and revolutionizes the way power is delivered to the military. The battery is in every major U.S. service including the Army, Navy, Air Force and Marine Corps, not to mention Special Forces units. This battery has been also tested and selected by numerous leading defense vehicle manufacturers worldwide.

Bren-Tronics' 6T batteries dramatically change the operational capabilities of armoured vehicles and the way in which military organizations manage the inventories of their vehicle batteries. The battery incorporates multiple electronic protections and safety features as well as a CAN Bus data access to monitor all battery parameters at all times. The battery cycle life is extended from hundreds of charging cycles to thousands of cycles compared to lead acid and the maintenance is reduced to zero.

Applications for the Lithium-Ion 6T power solution include tactical and combat vehicles, robotics, unmanned vehicles, silent watch, communication systems, weapon systems, active protection systems, auxiliary power systems and hybrid power systems. The high energy version provides 138Ah with a nominal energy capacity of 4.2kWh, and the high-power

version provides cold cranking up to 1100A at -18°C and 400A at -40°C power version (with no pre-heat required) and can be monitored through CAN Bus communication at all times.

The military has found multiple uses for the Bren-Tronics 6T batteries outside of the vehicle. By pairing our 6T battery with renewable source (i.e. solar panels) and a generator, you create a tactical microgrid that offers energy efficiency and power surety that assures you won't run out of power when the fuel runs out. Another novel use of our 6Ts is to power high energy drone jammers, or Unmanned Ground Vehicle (UGV).

New generation in battery charging: Light Universal Charger LUC®

Yesterday's solutions are now too heavy and not sufficiently efficient, that is why at Bren-Tronics, we work hard to propose innovative light-weight solutions such as the combination of solar fast charging solutions and the newest generation of universal chargers.

The Light Universal Charger LUC® is Bren-Tronics new generation charger that can charge any portable military battery using any energy source available in the field (vehicle, solar and battery) as well as AC standard input. The LUC® is a level 3 Smart Charging device using smart data communication protocols like SMBus, DQBus, single wire, to maximise charging efficiency while guaranteeing safety.

Thanks to its very light weight, the charger can be carried out in a soldier backpack and can simultaneously charge 2 batteries. The charger uses NATO approved connectors for input and output, allowing full interoperability with existing cables and battery adapters.

Thanks to its universal architecture to charge various battery types, LUC® provides ease of use and convenient logistic planning. The charger can be connected to PC/

Tablet to monitor and store any battery health, SOC and information. Concurrently, the LUC® offers OLED display with a friendly user interface to show all available information from the battery.



Like the majority of Bren-Tronics products, the LUC® underwent a rigorous military qualification and is rated IP67. It comes either in green or sand colour.

Bren-Tronics opens its International Technical Expertise Center (ITEC) in France to better serve his customers

With a constant customer centric approach for over 49 years, Bren-Tronics has recently opened its international



CETI center in Brest



Bren-Tronics LUC®

technical expertise center in France to better serve their international customers. The chosen site is located in Plouzané (29280) in Brittany, close to the Brest-Iroise Technopole. The main operational objectives of the ITEC are logistics, services and recycling of the thousands of batteries delivered every year to our main European customers. The site is fully equipped to store, diagnose, upgrade, repair and re-dispatch batteries and chargers all over Europe. The services provided by this new site respond to many pain points from our international clients, such as battery immediate availability, maintenance, storage and transportation. The gain in time, cost and logistic burden for our customer is substantial especially considering the recent events in East Europe and the constraints from IATA regulation in term of lithium ion battery transportation. ■

About Bren-Tronics, Inc.

Founded and in continual operation since 1973, Bren-Tronics, Inc. (Commack, NY) is a technology based power/energy company with over 49 years' experience designing/manufacturing rechargeable batteries, chargers and complete power systems. Supporting worldwide customers' power and energy solutions in any climate from watts to hundreds of kilowatts. Our Lithium-Ion battery systems are ideally suited for demanding directed energy applications (i.e. lasers) as well as hybrid front line renewable solutions.

Bren-Tronics is the world leader in the design and production of military rechargeable batteries, chargers, and power systems, all designed and manufactured in our state-of-the-art facilities in New York.

Visit Bren-Tronics at www.bren-tronics.com

About the author:

Mathyas Petit, Director International Defense & Security Business Development

Mathyas Petit is a 16-year experienced engineer and sales leader with a broad background in high-technology, complex contract management, international sales and business development. Mathyas benefits from a dual education with a strong technical background from his studies in engineering and solid business and management leadership from his executive MBA studies. He has a strong knowledge of the defense and energy industry, and proven track record in off-grid solutions for severe environment.