Tardec ground vehicle energy storage

The United States Army DEVCOM Ground Vehicle Systems Center (GVSC) (formerly United States Army Tank Automotive Research, Development and Engineering Center (TARDEC) [1]), located in Warren, Michigan, is the United States Armed Forces" research and development facility for advanced technology in ground systems. [2] It is part of the U.S. Army Combat ...

Major Applications: Ø Unmanned Underwater Vehicles (UUV) Ø Shallow Water Combat Submersible (SWCS) Ø Submarine Small Distributed Power Systems Ø Surface Ship Fuel ...

TARDEC Collaboration - Energy Storage. UNCLASSIFIED: Dist A. Approved for public release . Report Documentation Page Form Approved OMB No. 0704-0188 ... architecture and interface for advanced ground vehicle battery packs ...

The TARDEC Energy Storage Team is the single point of accountability to provide full service lifecycle engineering and integration support (cradle-to-grave) for Energy Storage systems for Army Ground vehicle platforms. o TARDEC Energy Storage Team Role is the Engineering Support Activity (ESA) to ensure conformance

Ground Vehicle Power & Mobility (GVPM) Report Documentation Page Form Approved ... US Army RDECOM-TARDEC 6501 E 11 Mile Rd Warren, MI 48397-5000, USA 8. PERFORMING ORGANIZATION REPORT NUMBER ... o Energy Storage Li-Ion o Vehicle tests: - ATC - AAEF o Power Electronics/cooling

TARDEC OVERVIEW; Ground Vehicle Power and Mobility 5a. CONTRACT NUMBER 5b. GRANT NUMBER 5c. PROGRAM ELEMENT NUMBER 6. AUTHOR(S) Chuck Coutteau 5d. PROJECT NUMBER 5e. TASK NUMBER ... Energy Storage. Thermal Transport & Distribution. Power Control & Distribution. Track & Suspension. JP-8 Fuel Cells. Rotary Engines. ...

US Army RDECOM-TARDEC 6501 E 11 Mile Rd Warren, MI 48397-5000, USA. 8. PERFORMING ORGANIZATION REPORT NUMBER. 20620RC. 9. SPONSORING/MONITORING AGENCY NAME(S) AND ADDRESS(ES) 10. SPONSOR/MONITOR"S ACRONYM(S) ... Energy Storage Team Leader. Ground Vehicle Power & Mobility (GVPM)

The new R& D infrastructure at GSPEL enables TARDEC to explore the development and integration of power and mobility systems for wheeled, tracked, manned and unmanned ground vehicles, in unprecedented ...

TARDEC Ground Vehicle Simulation Laboratory (GVSL) is a research laboratory located in Warren, MI that contains a high-performance, six degree of freedom simulator, Figure 5, and a networked ...

controller, traction drive system, energy storage system and cooling system. The system is built around a 5.5-liter, 5-cylinder, 440-kilowatt (kW) diesel engine that can operate at speeds of up ... tems integrator for ground vehicle platforms, TARDEC played a key role in evolving each of these parts of the system from component to subsystem and ...

o Manned Ground Vehicle Applications ... TARDEC P& E S& T Strategy ATO III.LG.2005.03 Fuel Cells for Military Vehicles Fuel Cells & ... Component Functional Tests SiC, power devices, Energy Storage, Inverter, Motor/Gen HED Capacitors, HV Pulse Chargers/DC-DC Converters (600V-10kV), SIC Output Switches, HV PFNs FCS Spiral

These briefing charts discuss TARDECs energy storage team mission, vehicle requirements for energy storage and Army ground vehicle power and energy challenges. Keywords *GROUND VEHICLES;*ENERGY STORAGE;ARMY EQUIPMENT;POWER;ENERGY CONSUMPTION;TEAMS(PERSONNEL);REQUIREMENTS;MISSIONS Created Date: ...

Key Features: Flexible architecture to accelerate vehicle hybridization o Voltage: 50 - 600+V o Energy: 3 - 100 kWh o Scalable modules (~50V) connected in series/parallel for various ...

Energy Storage Lab --Explosion-proof testing chambers make it possible to safely test and evaluate advanced chemistry battery vehicle modules. ... TARDEC associate director for ground vehicle power and mobility, and interim executive director for research and technology integration. The type of test to be performed on a component or a vehicle ...

Energy Storage Team Leader, U.S. Army TARDEC, DOD Power Sources Member sonya nardelli@us.army.mil 586-282-5503 July 27, 2010 Panel VII: State & Federal Programs ... §Energy Storage R& D Challenges §Army Ground Vehicle Energy Storage R& D Programs § Roadmap § Functional Breakdown

solution path for military ground vehicles addresses the electrical power gap. SIL testing of the ISG transmission system and power pack configuration can be seen in Figure 2 and Figure 3 respectively. Figure 2 - ISG testing in a SIL at TARDEC As part of TARDEC"s APOP program, a ground combat vehicle integrated solution is being explored.

The Combat Vehicle Armor Development (CVAD) program is a collaborative effort between TARDEC and ARL to develop and ballistically validate armor designs for the Ground Combat Vehicle (GCV). The GVSP CVAD program was tasked with developing solutions that will succeed against both current and projected future threats by using lighter-weight ...

GROUND VEHICLE SYSTEMS CENTER UNCLASSIFIED MDEX 2021 and Detroit Arsenal Opportunities Conference. Ground Vehicle Power & Mobility. Bruce Brendle, Ph.D., PMP ... o Energy Storage o Fuel Cells o Heat Exchangers o Air Filters o Electrical Components o Robotic - Power and Energy Vehicle

Tardec ground vehicle energy storage

Environmental

On the cover: TARDEC Capabilities will introduce you to our unique and, in some cases, one-of-a-kind ground vehicle systems laboratory and testing capabilities in conjunction with the world-class technicians, scientists and engineers who lead the Department of Defense"s research in ... The center image depicts two of five test rigs in TARDEC ...

Ground Vehicle Power & Energy Challenges. Battlefield consumption of energy increasing. New C4ISR technologies. IED Defeat Systems. New weapons (EM guns, lasers) Energy security problematic. Cost of fuel skyrocketing . Alternative sources sought -wind, solar, bio-mass, waste to energy. Operational issues. Battery usage & limitations -energy ...

Ground Vehicle Power and Mobility Overview 30 May 07. 5a. CONTRACT NUMBER 5b. GRANT NUMBER 5c. PROGRAM ELEMENT NUMBER ... Hybrid Electric and Energy Storage. Drive Components (motors, generators) Power Electronics. ... TARDEC Battery Roadmap. M& S (Phase I) ACTD (Phase II) MUA . IOC.

2015 NDIA GROUND VEHICLE SYSTEMS ENGINEERING AND TECHNOLOGY SYMPOSIUM POWER ... costs, provides power assurity, maintains vehicle energy storage systems and aligns with SAE standards. The 600 VDC bus (or voltages near 600 VDC) is the emerging standard for the Army. ... TARDEC is pushing for a common 600 VDC BUS, which will enable V2V ...

GROUND VEHICLE SYSTEMS CENTER Laurence M. Toomey, Ph.D. Energy Storage Branch Chief CCDC GVSC Combat Vehicle Energy Storage DISTRIBUTION A. Approved for public release; distribution unlimited. OPSEC #: 6791. DISTRIBUTION A. See first page. 2 1. Onboard power for energy-based capabilities, such as directed energy

Hi-Energy, Hi-Density Energy Storage «» ... Ground Vehicle Power and Energy Technology Taxonomy Diesel Engines Rotary Engines Transmissions JP-8 Fuel Cells Traction Motors Integrated Starter Generator ... TARDEC"s Ground Vehicle Gateway 11 . ...

Army has a diversified energy storage portfolio supporting a wide-range of customers Army has and is actively seeking collaboration with other Government Agencies, and Commercial & ...