BLACKSTARTECH®

Redefining Resiliency:

Solutions for Portable Power, Lighting and Broadband Communications

Benjamin Youman
BlackStarTech VP of Operations, Strategy & Growth

Studsvik

Agenda

- BlackStarTech (***BST***) Backstory and Capabilities
- Overview Video on Resiliency: Nuclear Use Case
- Master Product Family and Resiliency Offering Summary and Customer Value Proposition
- Market Outreach
- Product Family Detail Review
- Questions
- Appendix: Detailed Product Descriptions
  - Appendix A: Non-Nuclear Use Case

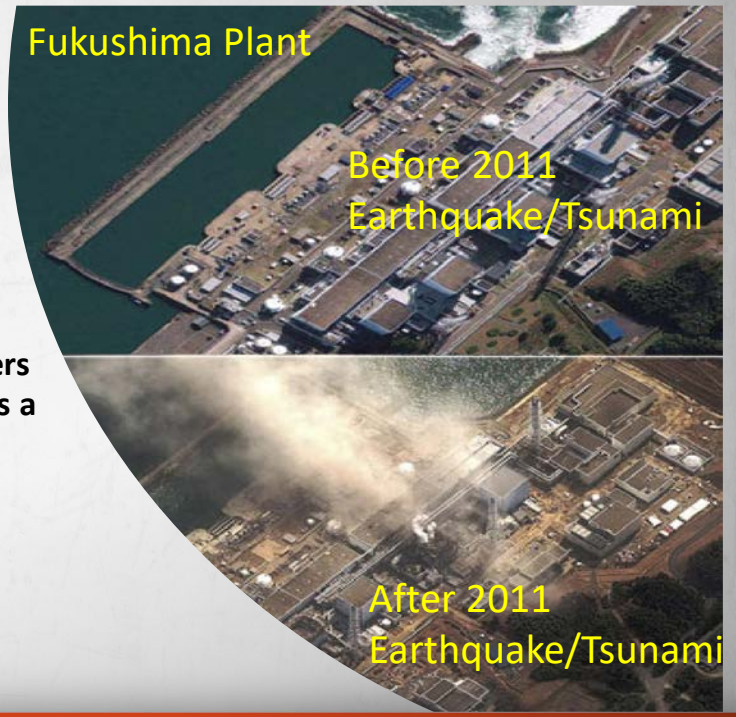
Capability and Development Backstory

BST revolutionizes emergency power, energy storage, battery replacements technologies, critical smart lighting deployments and private broadband cellular technologies through innovative battery power and IoT communication solutions for key essential industries, critical infrastructure, and first responders.

- **Envisioned to augment emergency power applications for US Nuclear Industry's FLEX Response.**
  - Deploys in under **30 mins** and supplies power for greater than **30 days**
  - Delivers power directly to essential loads and serves as an alternative to mobilizing cumbersome large-scale backup generators and fuel supplies
  - Redefines rapidly deployable power, lighting, and emergency communication solutions—**any time, any where**

- **Enables first-of-a-kind portable power solution system that significantly lowers facility risk profiles, supports 50.69 Risk Informed applications and empowers a variety of fleet maintenance, productivity, and cost savings use cases.**

- **Applies to many other industries requiring emergency and resiliency power solutions while also providing abundant applications for first responders, technicians and essential facility planners requiring portable power, lighting, broadband communications, and energy storage benefits.**



Solutions Redefining Resiliency®

This is how you "Redefine Resiliency" for an Industry

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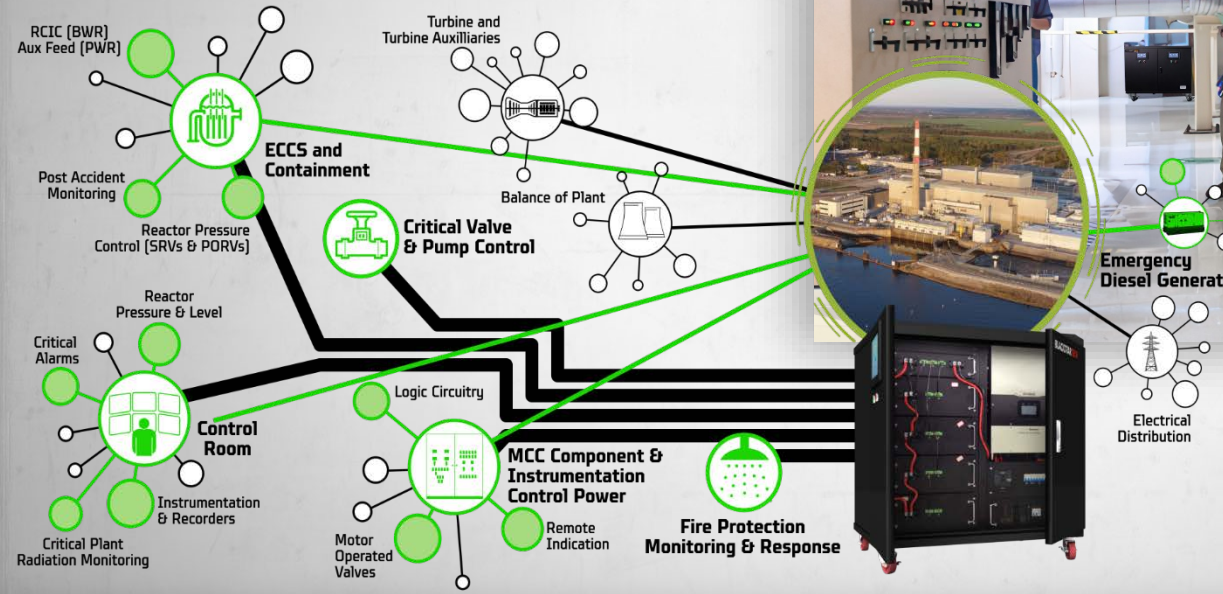
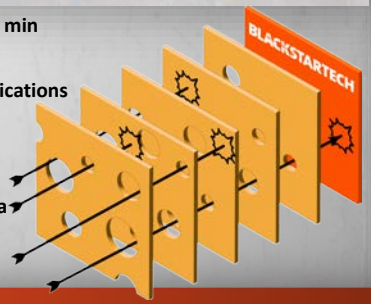


- Deployable Power in Less than 30 min lasting >30 Days
- Power Critical Equipment and Indications
- Reduce PRA by up to 25%
- Augment/Eliminate Flex Actions
- Foundational SCM component in a Complex Safety System



From Resiliency Concept to a Master Product Family Suite

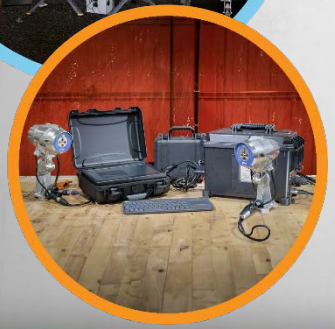
Breakdown of BST's Five (5) Product Family Offering

Genesis® Series Emergency Power Systems

- Portable, rapidly deployable power enables efficient and flexible site emergency operations and accident response as well as numerous outage and maintenance applications.
- Facility hardening and essential infrastructure power delivery provides tangible reductions in overall facility risk profiles.
- Custom portable power from 24VDC/48VDC/125VDC/250VDC to 120VAC/240VAC/480VAC 3-Phase from a battery.
- Substantial power delivery solutions in hand carry packaging redefining resiliency response.

Lightworks® (iSentient® and BrightSites®)

- Efficient battery UPS industrial lighting solutions range from handheld to full-scale tower lighting, optimizing deployment, utilization costs, and carbon emissions.
- Smart Emergency Lighting solutions with predictive diagnostics and connectivity, enabling remote performance monitoring and IoT automation, scalability, and sensor applications while providing significant facility maintenance cost savings.



FireSight® Autonomous Fire Watch

- Industry First rapidly deployable, independent fire detection system that protects your facility from damage that can result from hot work-related fires, degraded fire zones, and unexpected combustible events.
- Eliminate resources applied to firewatches, automate degraded fire zone response, and enhance regulatory margins.
- Capabilities exist for detecting and monitoring hazards from steam and oil leaks with built-in video analytics system.

Breakdown of BST's Five (5) Product Family Offering

QuantumCore® Battery and UPS Power Systems

- Industrial battery and UPS replacements optimizing performance, enhancing life cycle cost and minimizing maintenance utilizing embedded proprietary battery predictive, diagnostic and monitoring technologies.
- Scalable for a variety of backup power, grid tie applications, and energy storage solutions ranging from kWh –MWh scalable systems.
- Safety Related Battery System in development to redefine Nuclear Industry offerings while redefining PRA and Risk Profiles.

Beacon® Private Broadband 5G/LTE Broadband Solutions

- Completely functional stand-alone 4G/5G private cellular networks for productivity and resiliency use cases optimizing facility broadband, IoT automation, machine learning, AI and communication applications.
- Field deployments operational in under 10 minutes with full V-Sat or Starlink interconnectabilty.
- Resilient stand-by battery-operated configurations and hardened solutions for essential facilities and critical infrastructure operation.
- Complimentary software monitoring and Network-as-a-Service offering.
- Enable comprehensive automation, machine learning and AI applications.

Customer Value Proposition

Sustainability and Resiliency

BST energy delivery technologies **minimizing carbon dependency** for both day-to-day operations while supporting a variety of **energy storage, resiliency** and **risk response** solutions for wide variety of applications and use cases.

Productivity and Cost-Savings

BST provides **$1M to $2M direct savings opportunities** if technology embraced across typical Nuclear Site or Power Plant:

- Battery and UPS System Replacements ***(In Progress-Nuclear & Utilities)***
- Surveillance Automation and IoT Sensor Applications ***(In Progress--Nuclear)***
- Deployable Facility and Outage Lighting Solutions ***(In Progress--Nuclear)***
- Portable Power Solutions for Maintenance and Outage ***(In Progress—Nuclear)***
- Battery Energy Storage Systems and BlackStart Capabilities ***(In Progress--Utilities)***

Growth Technology and Future Software Service Offerings

BST technologies significantly increase future potential use cases through new inventions, expanded battery predictive capabilities, integrated automation, US designed and manufactured BMS and formal UL Battery Certifications while Private 4G/5G LTE enables **Industry 4.0 Software Services** and **Machine Learning Solutions**.

Applicable Industries: Solutions and Benefits

In three years, BST developed products application use cases across 11+ industries providing:

Resiliency Solutions

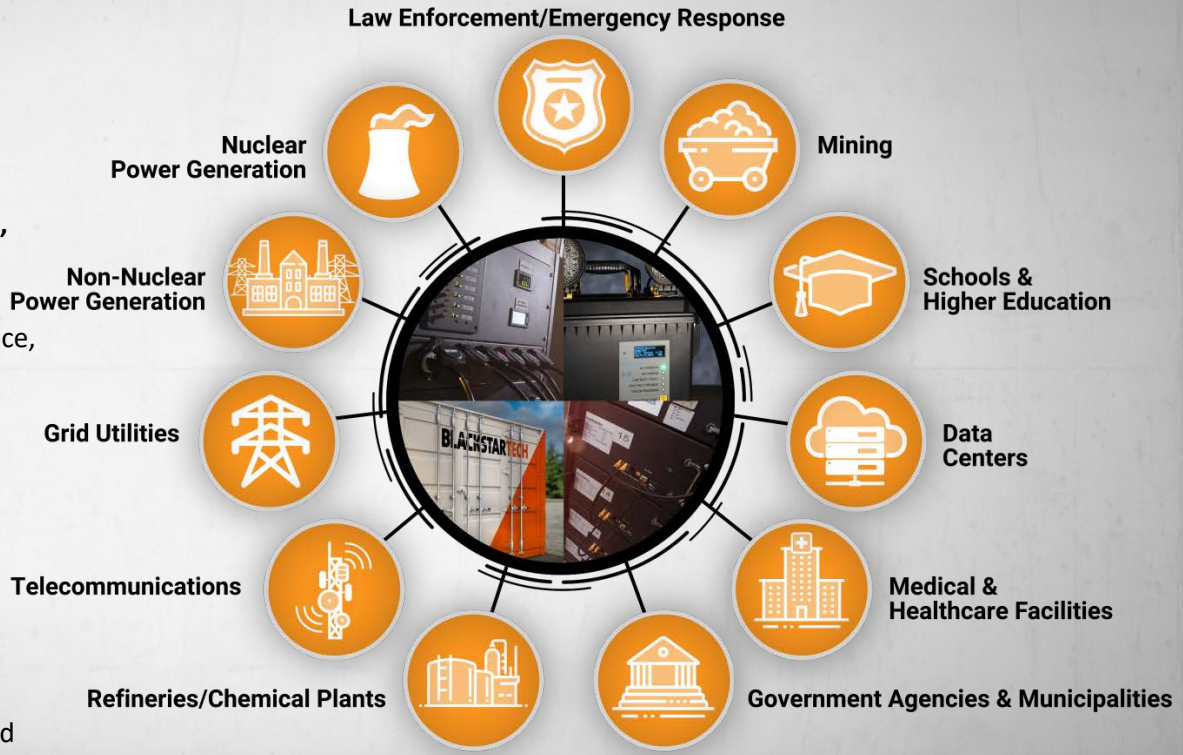
BST provides broad reaching technologies for a wide variety of industries requiring:

- **Resiliency** and **Emergency Response**
- Critical Infrastructure **Power Delivery, Energy Storage, and Power Redundancy**
- Specialty **portable power form factors** for first responders and essential facilities enabling maintenance, outage productivity and cost optimization solutions
- Maintenance, Outage and Smart Emergency Lighting

Complimentary Benefits

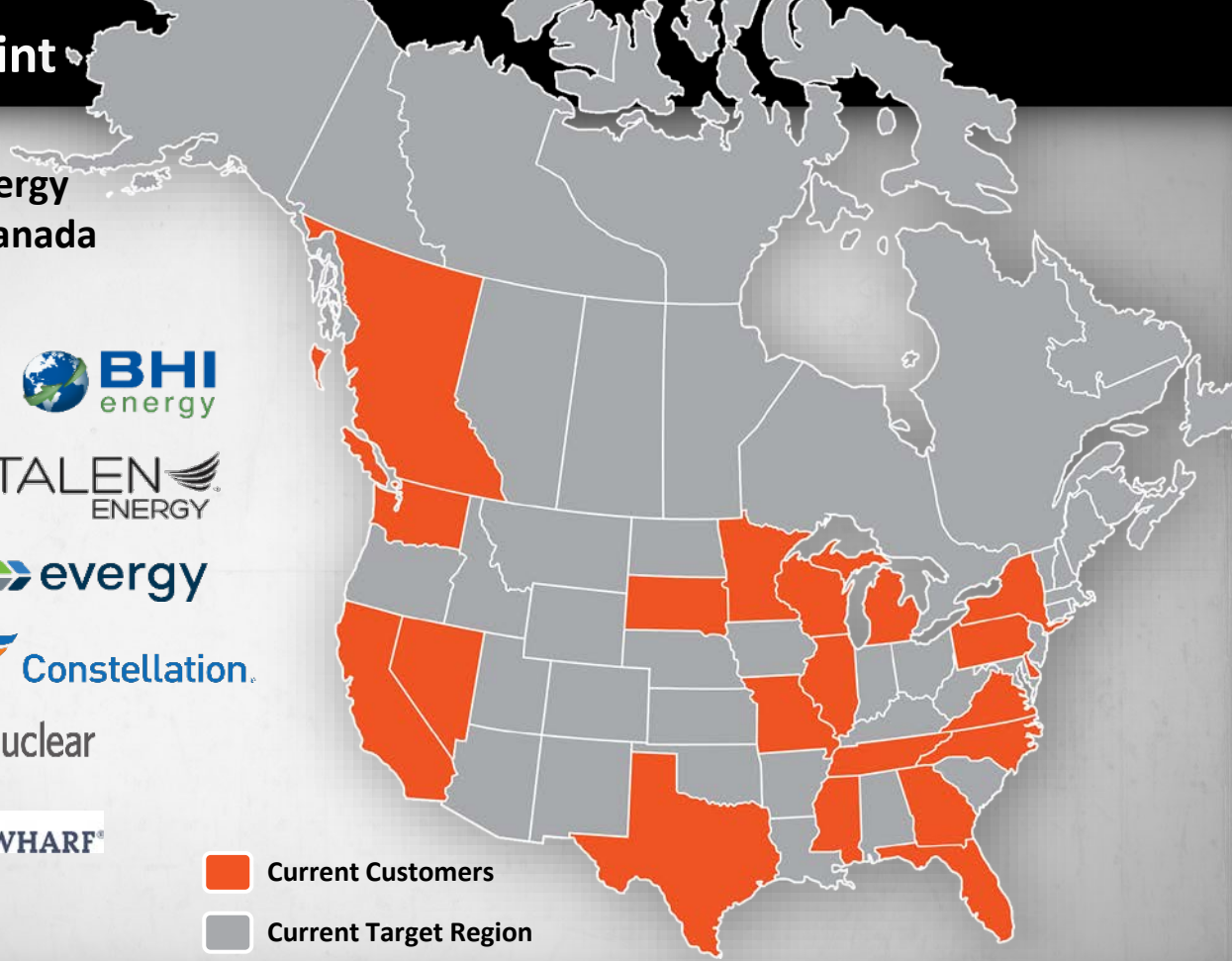
BST enables:

- Life Cycle Cost and Direct Resource Savings
- Energy Storage/Utility Peak Shaving capabilities
- CO_2 Reduction and Environmental Risk Reduction
- Critical Communication and essential facility Broadband IoT Monitoring and Integration



Geographic Market Footprint

BST serves multiple utilities and energy companies across 18+ States and Canada



Genesis® Emergency Power Systems (Typical Fleet Deployments)

Genesis Portable Power Supplies:

- **The Genesis Product Family stands apart from traditional battery power and FLEX deployment strategies with its rapid deployment capabilities, diverse power sources and numerous tactical deployment advantages**
  - o 5kW-hr to 30kW-hr portable energy solutions
  - o 120VAC to 600VAC 3-Phase Power
  - o Nano-Grid Technologies and Integration
- **Genesis Series provides rapidly deployable battery power solutions improving safety and reducing Power Plant and Industrial Facility Risk Profiles**
- **Technology and Form Factor applicable to a wide variety of industries and applications offering essential resiliency and first responder response solutions**

Resilient Solutions for Targeted Power, Lighting and Communications. Anytime. Anywhere.

GENESIS® SERIES

Rapidly Deployable Battery Power solutions that improve safety and reduce Station Risk Profiles

As the nuclear industry continually seeks innovative approaches to improve safety, reliability, and efficiency, **BlackStarTech®** is now delivering the Genesis Product Family — an advanced cadre of portable, rapidly deployable battery solutions to augment your existing FLEX strategies and provide new tactics for your Beyond Design Basis loss of power events.

Designed in collaboration with engineers and operators from Constellation Nuclear to exceed the stringent requirements of any nuclear power plant, the Genesis Product Family offers rapidly deployable portable backup power, ensuring rapid recovery from unforeseen loss of power events. Genesis solutions can be deployed in under 30 minutes and are designed to provide power for greater than 30 days with their specialty integrated compact generators.

The Genesis intuitive design and flexible product capabilities not only improve your existing Probabilistic Risk Assessment (PRA) profiles but can be applied to optimize outage and online maintenance and operational sensitive activities saving you time, minimizing resources, and reducing costs.

Genesis Portable Power Packs: “Grab and Go”

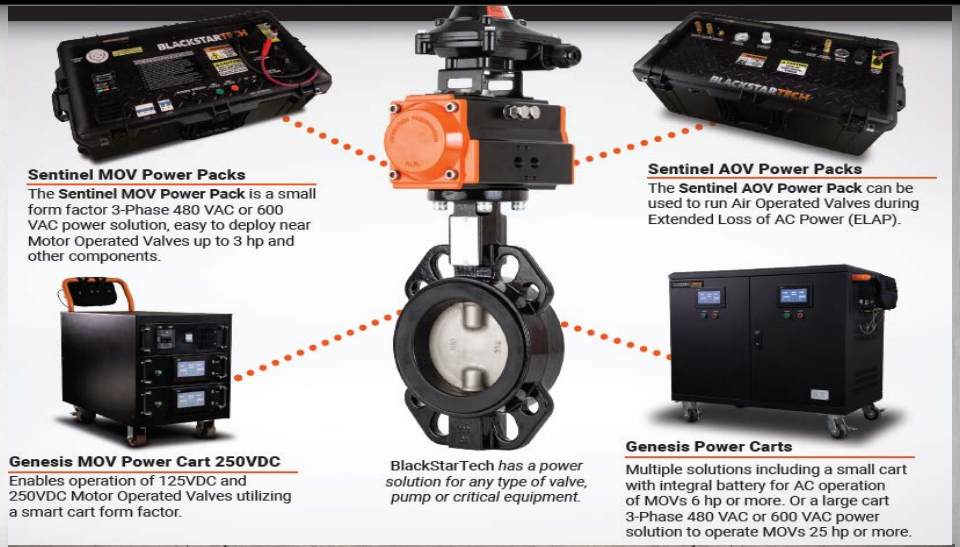
- **Genesis Sentinel Portable Power Packs provide resilient power solutions up to 5kW-hr of hand carried solutions that are crucial in both maintenance and outage applications as well augment your facility risk profiles**

- **Genesis solutions redefine portable power and are meant for “grab and go” applications providing a variety of DC and 120V/240V AC Power Solutions---even small scale 3-Phase 480VAC/600VAC power solutions are available redefining power options and capabilities**

BST Battery Weld Cart
8-24 hours of welding

- **Provides solutions if emergent risk or schedule conflicts arise due to planned or emergent outage risk windows that could prevent bow wave or critical path delays due to equipment power or risk availability solutions**

- **Enables capabilities in lieu of traditional temporary power solutions that could save resources and potentially deployment cost that could be reassigned to other activities**



Genesis Risk Benefits and Applications

- **The BlackStarTech technology improves regulatory margin and delivers advances in comprehensive risk profile strategies including:**

  - o 10CFR50.69 Categorizations and Component Classifications
  - o Risk-Informed Completion Time Program Backstops
  - o Improvements in Significance Determination Process response that can reduce the severity of regulatory findings and mitigate liability in SDP enforcement cases
  - o Enhanced Risk Reduction Margins for Fire, Internal Full Power Events, Flooding, and High Winds
  - o Broad FLEX and B.5.b Augmentation Potentials

QuantumCore® UPS and Battery Replacement Systems

Video: https://vimeo.com/723842120/25dbd8cff5

Quantum Core UPS Power & Battery Systems

- **Backup UPS and Industrial Battery Replacements providing resiliency solutions and hardened emergency power for:**
  - o Facility and Critical Infrastructure Hardening Solutions
  - o Essential backup power preparedness for a variety of Natural Disasters and "BlackSky" Events
  - o Compact and Automated Self Diagnostic and Surveillance Capabilities

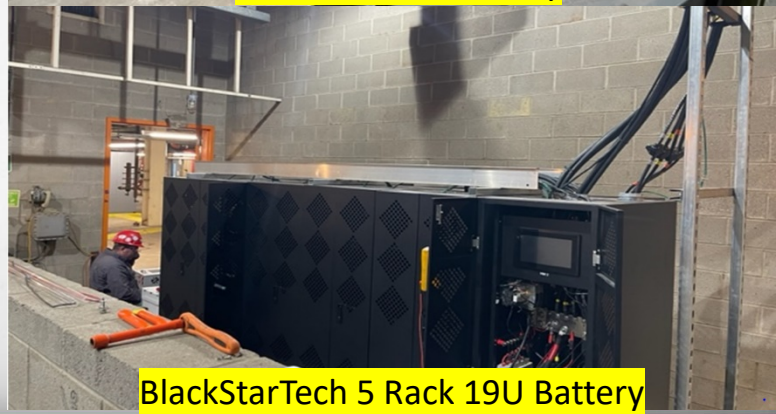
Sample of QuantumCore Industrial Battery UPS Replacement

- **Compact Industrial Battery and UPS Replacements:**
  - Eliminate reliance on costly industrial lead acid batteries and power supplies across your facilities and critical infrastructure
  - Optimize life cycle costs with proprietary smart automated predictive battery technology eliminating maintenance surveillances with integrated self diagnostic capabilities
  - Offer an optional US designed, developed, and manufactured Battery Management System (BMS)
  - Delivery solutions for Safety Related Battery in design and development

QuantumCore 2000kW-Hr 125VDC Eddystone Station Battery Replacement

- **Replaced Eddystone Unit 3 and 4 125V 2000kW-hr UPS**
  - o Saved 25% of costs for like-for-like systems
  - o Extended useful life of Battery System by 50%
  - o Eliminate extensive PMTs and Load Testing
  - o Provided built in redundancy eliminating emergent concerns
  - o Each 19U Rack is stand-alone 125V 420A-hr Battery (5 Stacks = 2100kW-hr)

Old Lead Acid Battery



BlackStarTech 5 Rack 19U Battery

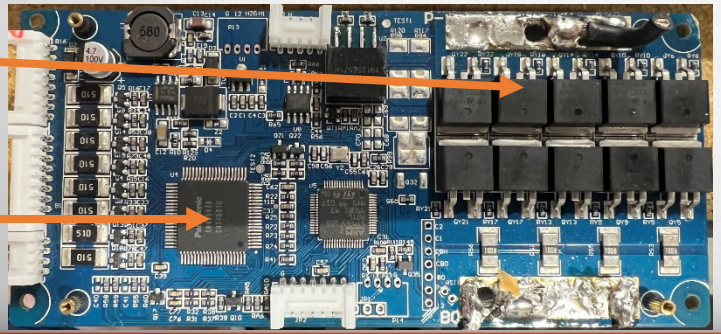
QuantumCore Marketing Distinguisher #1

US Battery Management System (BMS) in-house Design and U.S. Manufactured

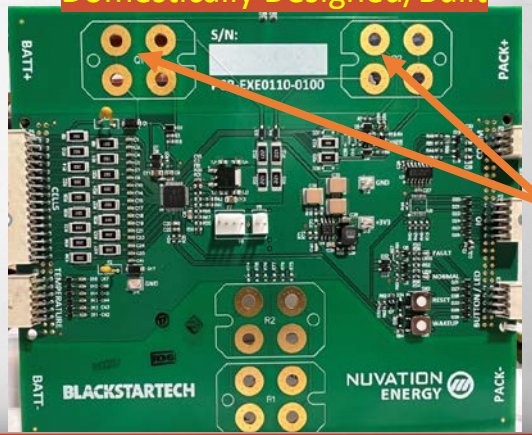
- **BST development of "in-house" designed BMS protection logic and integrated with our patented battery predictive algorithms elevates our product lines to categories with no direct competition that differentiate by:**
  - Intellectual Property owned, designed, and manufactured in U.S.
  - Robust domestic sourcing, production, and cyber security control
  - Resiliency features allowing expansion to high-end stringent critical infrastructure, essential applications and even military utilization
  - Facilitates UL and cyber certified products with potential Mil-Spec and Nuclear Stamp utilization

Oversees BMS

- **Unknown Manufacturer**
- **Limited Current Capacity**
- **Black-Box Firmware and Embedded Microprocessor**



BlackStarTech BMS
Domestically Designed/Built

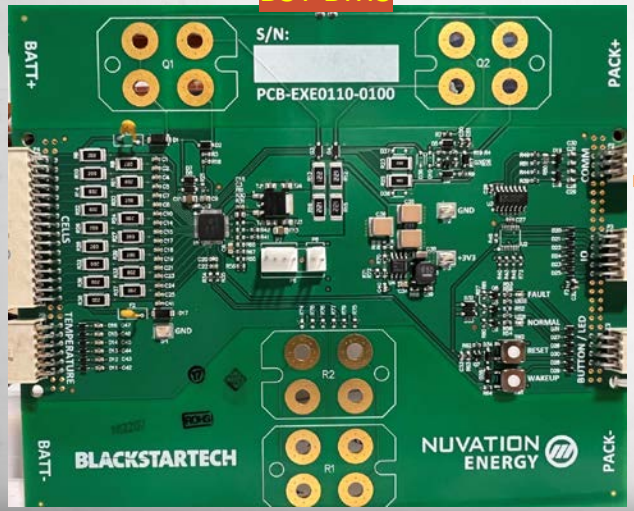


- **Made in US (BST)**
- **No embedded microprocessor and onboard software**
- **External current flow for wide range current caring applications for flexible manufacturing (build once use many applications)**

QuantumCore Marketing Distinguisher #2

- **BST Integration of BMS and Patented Battery Diagnostic State of Health (SOH) are game changer intellectual properties and elevate product line capabilities:**
  - o Patents and intellectual property allow us to create distinguishing products that are produced in U.S. with security and cyber controls
  - o Automates Battery Surveillance and Monitoring enhancing safety and eliminating resources and maintenance costs
  - o Prototypes functional and working today and will require minimal algorithm development, expanded cell testing, and patent management

BST BMS



Date Bridge

BST Companion Board* for Battery SOH Calculation

*This Component already is built and used in BST iSentient Smart Emergency Lighting Devices

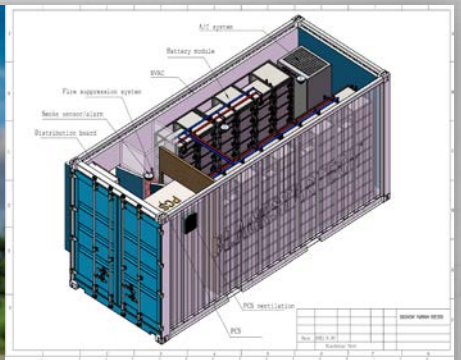
QuantumCore Marketing Distinguisher #3

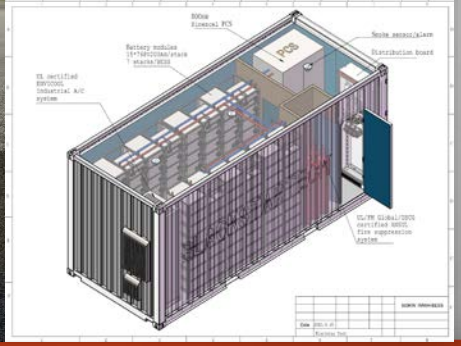
- **Domestic Sourced Software and HMI Controls**
  - Nearly all Battery UPS Systems have control software designed oversees with “questionable” origins and cyber controls
  - BST Licensee arrangement with nuclear software vendor provides domestic sourced and certified cyber secure battery management software controls and monitoring exceeding strictest security and essential industry requirements (DOE/DARPA/NERC/FERC)

QuantumCore Large Scale Battery Energy Storage Systems

- **Large Scale Battery Energy Storage Systems (BESS) and Grid Tie Battery Applications**
  - o 1-2 MWh BESS (500kW) grid tie backup power and critical facility infrastructure solutions
  - o Scalable for a broad range of applications including emergency backup power and/or peak shaving
  - o Permanent configuration or portable applications for wide ranging incident response scenarios

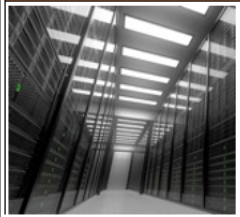
3 Units sold to Pennsylvania Power & Light for grid resiliency and reliability





QuantumCore Industry Use Case

- **BSTs battery systems can replace many traditional acid lead industrial UPS installation and provide critical backup power for multiple industry use cases**

Nuclear	Non-nuclear	Utilities	Telecommunication	Chemical plants	Refineries	Data centers
						
▪ Replace Industrial battery UPS /Stand-by Systems ▪ Safety Related Battery	▪ Replace industrial battery UPS /Stand-by systems and optimize maintenance and life cycles costs	▪ Replace industrial battery UPS /Stand-by systems by eliminating lead acid battery technology	▪ Replace industrial battery UPS /Stand-by Systems with smaller form factors and longer run times	▪ Replace industrial battery UPS /Stand-by Systems with smaller form factors and longer run times	▪ Replace industrial battery UPS /Stand-by Systems with smaller form factors and longer run times	▪ Replace industrial battery UPS /Stand-by Systems and optimize integrated diagnostic systems

Product features	Use case
▪ Uninterruptible power supply (UPS) with self-diagnostic technology to monitor battery health and facilitate battery maintenance and testing ▪ Lithium Iron Phosphate batteries ▪ UPS for applications requiring near-instantaneous protection from input power interruptions ▪ 20 – 120 kWh / 2.5 – 10 kWh options available	▪ Uninterruptible Power Supply (UPS) for applications requiring near-instantaneous protection from input power interruptions ▪ Significantly longer battery lifespan and better form factor ▪ Eliminate extensive maintenance costs through remotely monitoring

QuantumCore Future Use Cases

Charging Stations for EVs	BST BESS can enable Power Stations to full embrace Electrical Vehicle Transition by utilizing: ▪ Battery Storage Systems, Solar Panels as a microgrid enabling local energy generation and storage ▪ Use surplus electricity reducing operating costs and realizing fast, efficient, cost-effective EV Charging with Clean Energy
Current status	***Concept discussed for Nuclear Stations to promote transition to Site utilization of Electric Vehicles***
Eddystone PA: Unit 3/4/30	Replace Degraded UPS Systems that are absolute, provide longer lifecycles, and Maintenance Intensive with newer more cost-effective solutions. There are 100s to 1000's across the Fleet
Current status	***Constellation is in progress of Test Replacing small UPS Solution***
Clinton OH: Battery Energy Storage Facility	Replace degraded batteries and model for Fleet Deployments for Energy Storage, Grid Demand and even BlackStarTech Capabilities saving money, promoting renewables, and providing resiliency
	Pilot Launched to assess feasibility

Lightworks® Smart Emergency Lighting and Battery UPS Lighting Solutions

Lightworks® UPS Battery Maintenance and Outage Lighting Solutions

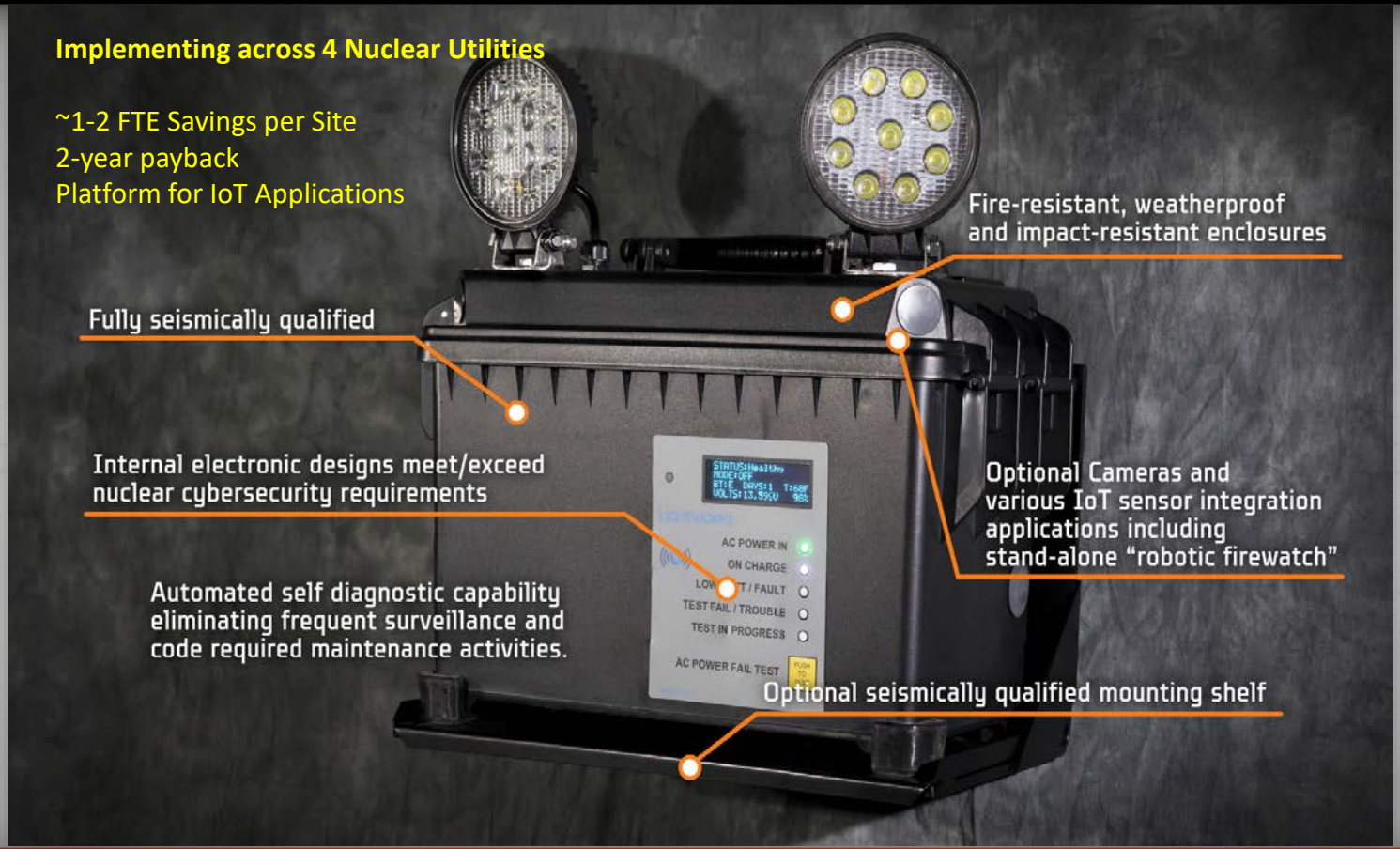
- **Battery Power Lighting solutions for industrial users, first responders, and critical facility requirements enhancing readiness, minimizing maintenance, and improving life cycle costs.**
  - Configured to run as an uninterruptable power supply by either running on 110AC power or battery and automatically swapping without loosing lighting

- **BST Lightworks product family provides UPS Battery Lighting ranging from 5K Lumens to 100K Lumens.**
  - Decrease deployment costs
  - Eliminate reoccurring rental costs
  - Recover resources from continual refueling
  - Minimize carbon emissions
  - Optimize productivity
- **Cost Avoidance, Resources Savings and Environmental Stewardship with significant reduction in Carbon Emissions**

Lightworks Example of Eliminating Light Tower Rentals

- **Nuclear Fleet Problem Statement:**
  - Constellation Nuclear Fleet Expends **~$0.3M** to **$0.4M O&M** every year on Light Tower Rentals for Sites
  - Light Tower Rentals are direct O&M cost, but also require resources for staging, ensuring EPA Spillage Berms in place/maintained and constant refueling- during use
    - Approximately **$0.2M** to **$0.3M** in resources per year setting up and physically refueling
    - Approximately **$0.1M** to **$0.2M** in fuel costs per year
  - Light Tower Rentals represent environmental risk due to a potential EPA spill during operation, refueling, and storage
  - Light Tower Rentals contribute approximately **~300,000 lbs of CO2 emissions every year** across Nuclear Constellation Fleet

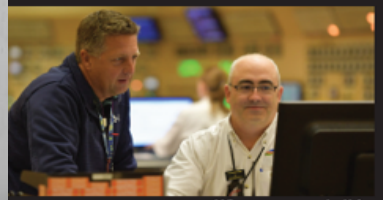
Lightworks iSentient Series Smart Emergency IoT Lighting



Lightworks iSentient Series Smart IoT Network Monitoring

- **Eliminate extensive resources and automate monitoring of your facility Emergency Lighting System**
- **Turn your Emergency Lighting System into augmented IoT monitoring system with cameras, sensors, and security solutions**
- **Enhance safety and productivity**

Why continue to do this?



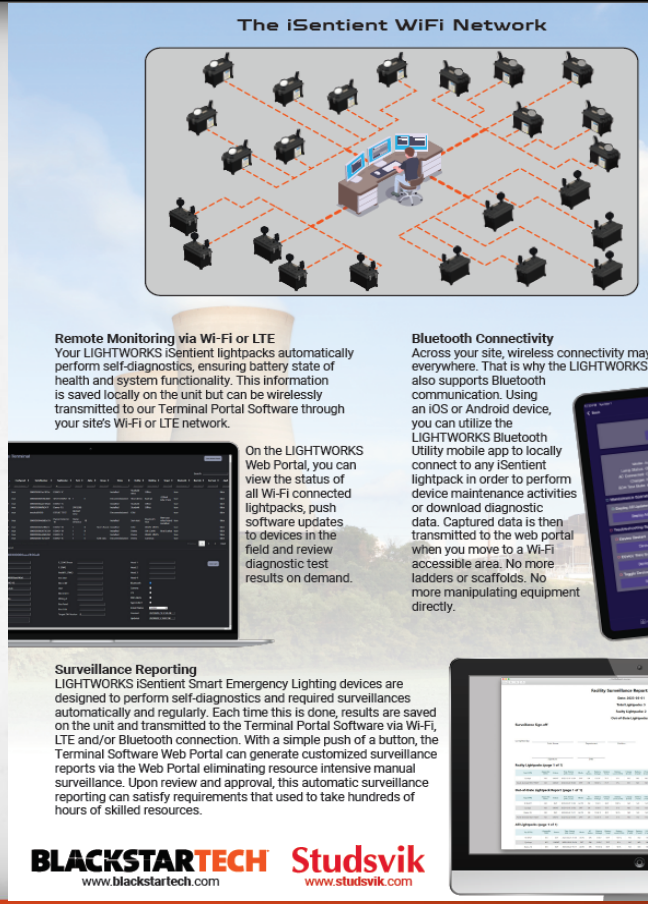
When you can do this.

Safe, Error-Free, and Efficient
We understand that every activity has inherent risk. We manage that risk by designing in safety, eliminating human performance traps, and utilizing technology wherever possible. We scrutinize every activity for prudence and execute flawlessly. We move forward, continuously improving, never settling for "the way it has always been done."

This is why you need BlackStarTech LIGHTWORKS iSentient Smart Emergency Lighting – which provides advanced LED lighting, state-of-the-art battery technology, self-diagnostic testing of battery health, and remote performance monitoring communications. This complete solution includes LIGHTWORKS Terminal Portal Software from Studsvik, which allows you to remotely manage and maintain your smart emergency lighting across your facility, automate surveillances, minimize maintenance, assure reliability, and reduce lifecycle costs.

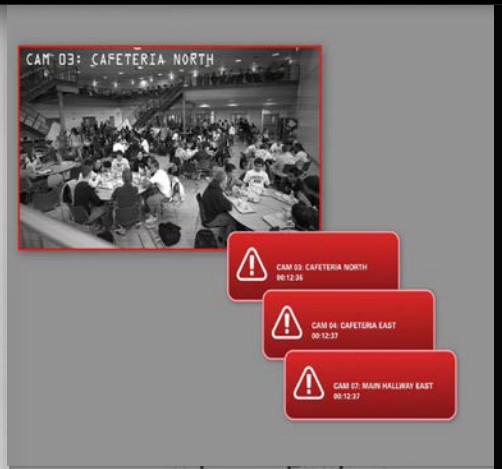
- Truly remote monitoring uses your site's wireless backbone.
- Bluetooth communication means no climbing ladders or connecting equipment to perform local diagnostics.
- Instant data compilation and report generation meet your surveillance requirements with no added effort.

This is how you lighten your load with the push of a button.



Lightworks iSentient Series IoT Senor and Automation Platforms

- **Lightworks iSentient permanent or portable incident response for sensor surveillance, security, fires or even active shooter scenarios for schools, convention centers, and corporate headquarters.**



Lightworks iSentient Shot Detector Series

- Help alert authorities to gunshots and active shooters
- Location mapping
- On-board cameras activated

Applications for:

- College Campuses
- Schools
- Corporate Centers
- Conference Facilities
- Medical Building
- Security

FireSight Robotic Automated Firewatch Series

A 20-year study found that

736 **HOT WORK IGNITED** fires and explosions accounted for **$1.9 Billion** in property loss and business interruption

FireSight Robotic Automated Firewatch Series

FireSight Robotic Automated Firewatch Series

FM Global Approved Firewatch with Flame and Video Analytics:

- Detect: Smoke, Flame, Steam and Combustible Oil Mists
- Replaces degrades fire zones and augments critical work monitoring and eliminating costly fire watches

Beacon® Private 4G/5G LTE Broadband Networks

BLACKSTARTECH

FAST AND RELIABLE NETWORK CONNECTIONS

The Beacon Broadband Series enables LTE interconnectivity and reliable communications leveraging mobile edge computing (MEC).

Beacon Broadband Series EZ 4G/5G LTE Node

BlackStarTech offers two products in the Beacon series, the Beacon Broadband Series EZ 4G LTE Node (model # Beacon-EZ-4G-001) and Beacon Broadband Series EZ 5G LTE Node (model # Beacon-EZ-5G-001) depending on your needs.

Private LTE Technology

- **BlackStarTech obtained exclusive rights to Private 4G/5G Technology to serve mission statement of portable power, lighting, and communication solutions anytime…anywhere.**
- **Beacon® Broadband Private 4G/5G LTE Technology provides broadband infrastructure and communication solutions at a fraction of cost of Wi-Fi, Distributed Antenna Systems (DAS) or commercial solutions.**

  - Takes Wi-Fi and Communication needs to 21st Century while providing **coverage solutions in square miles**
  - Integrates with existing facility Wi-Fi, voice, data, radios and sensor networks while expanding range, coverage, and capability at **fraction of cost** of any comparable solution
  - Serves as **augmented** or **complete replacement** for **communications** and **broadband network solutions** for interconnectivity, communications, sensors, cameras, security radios, and a host of interconnectivity applications that support transition to Industry 4.0 as well as the implementation of AI and Machine Learning.
  - Enables **heightened security** and **edge computing** applications
  - Eliminates need for commercial carriers and m**inimizes cost per connected device** while significantly adding resiliency factors
  - Provides productivity and automation solutions

Private LTE utilizes same technology as Commercial Carries but FCC 105 Ruling reserved spectrum for private users and

Private LTE Example Use: Dresden Pilot Deployment Details and Capabilities

- Dresden successfully installed and tested the first private Cellular LTE network in a US nuclear facility.
- Pilot Installed and Tested:
  - Eight (8) Beacon LTE radio units 4 outside campus and 4 within the turbine building
  - Hundred (100) Sensor (temperature, pressure and vibration) for seasonal readiness and Condition Based Monitoring
  - Tested new Motorola Private LTE Security Radios
  - Private LTE Cameras and LTE iPad Tablets Tested
  - Integrated phones and personal cell phone roaming capabilities
  - Push-to-Talk and Push-to Video for digital worker

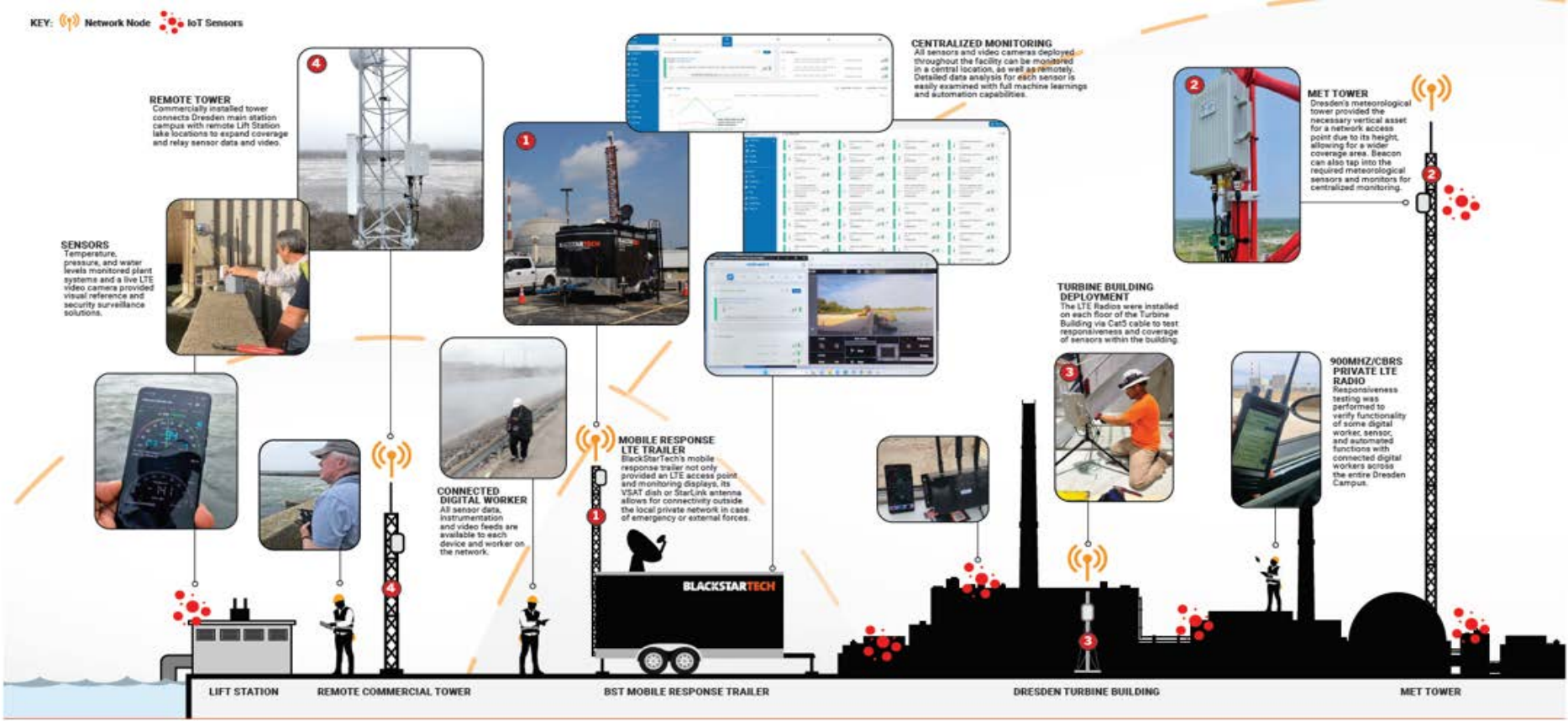
TURBINE BUILDING ROOF

MET TOWER

LIFT STATION

TURBINE BUILDING

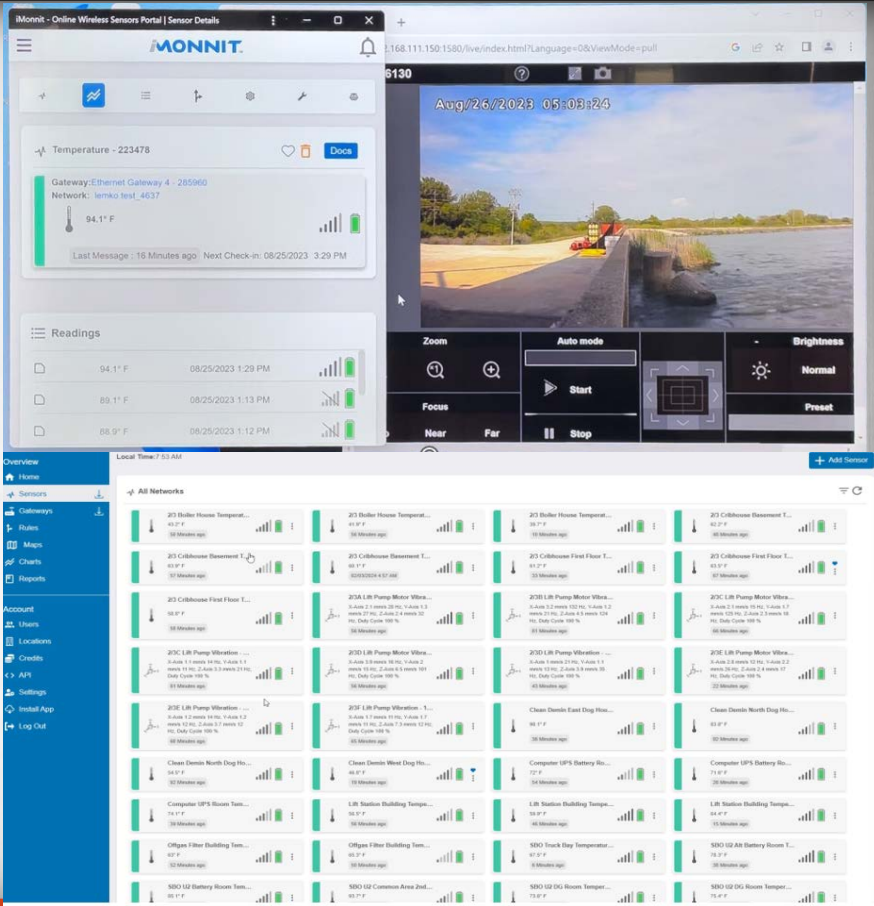
Private LTE: Dresden Clean Energy Center Pilot Snapshot



Dresden·Clean·Energy·Center·Private·(4G/5G)·LTE·Deployment¶

Private LTE: Central Monitoring System for Sensor and Camera Solutions

- Central Monitoring System develop and deployed.
- Beacon Private 5G solution provides high bandwidth, ultra low-latency, and extensive interconnection frameworks to automate and provide 24-hour sensor monitoring capabilities and data acquisition that drives business operations in ways never before possible.
- Sets foundation for Machine Learning and AI Applications.



Private LTE Industry Trends—EDF and CEZ Confirmation of Technology

- EDF Committed to Private 4G/5G LTE with deployment across their Fleet.
- Formal Benchmarking conducted in June 2024 validating deployment and EDF Connect Project.
  - Focus on Communication—every employee has LTE Phone with video capability
  - Implemented digital worker tools with issuing WR/WOs and IRs for CAP directly from smart phones
  - Incorporated Chemistry Rounds via smart phone
- EDF looking at expanded Sensor deployments and monitoring solutions.
- CEZ pilot provides private 5G Network at Temelin Nuclear Plant.

RCRWireless News

RCRWireless News

EDF boosts private LTE at French nuclear plants

By James Blackman May 31, 2024

Electricity company EDF has accelerated its private LTE rollout at nuclear power plants in France with Ericsson and Thales. The firm, which originally scheduled two-to-four networks per year when the project was announced in 2021, told Private Networks Global Forum this week that it has so far deployed nine private LTE networks, and has a new target of six per year. It wants 21 private LTE networks at 21 nuclear sites, to connect workers and machines at 57 power stations.

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Vodafone and CEZ pilot private 5G network at Temelin nuclear plant

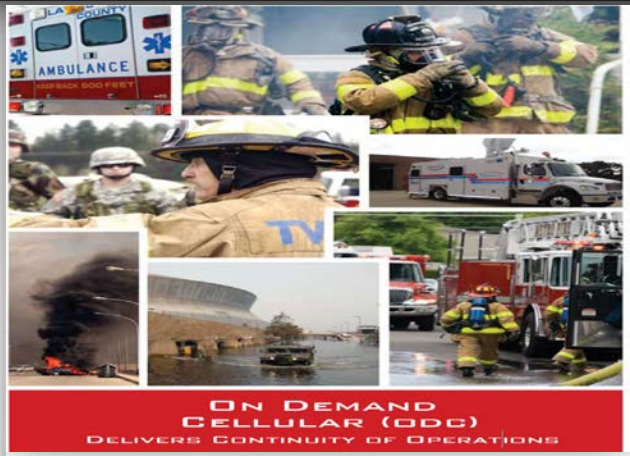
Monday, 2 September 2024

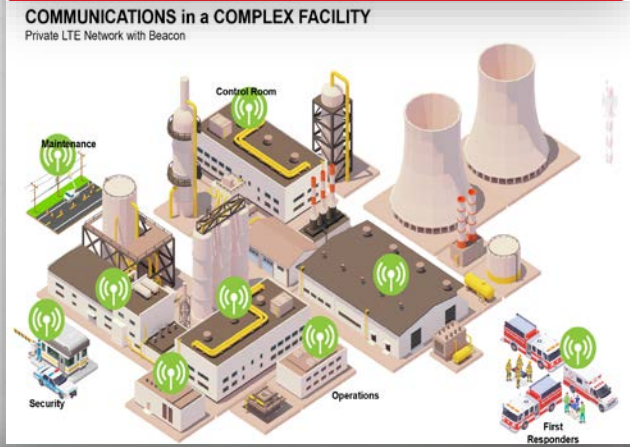
Mobile phone giant Vodafone and Czech nuclear operator ČEZ have introduced what they say is Europe's first private 5G mobile phone network at a nuclear power plant.

Beacon Deployment Form Factors

- **Full Facility IoT Integration and Compatibility at Fraction of Cost:**
  - **Operates with standard cellular and VoIP type devices** guaranteeing high reliability, easy acquisition, and low deployment and operational cost
  - **Integrates existing facility 2-way radios, phone and sensor systems**
  - **Connects to legacy networks** to ensure interconnections during normal operations and disaster scenarios
    - Satellite reach-back, microwave, Wi-Fi, WiMAX, IP/Ethernet, ISDN, and POTS network connections during normal operations and emergency scenarios

- **Rapidly Deployable:**
  - **Rapidly deployable solutions operational in less than 10 minutes** packaged in a variety of battery deployment configurations
  - **Full "Mobile" Communications** carried by hand, mounted on a vehicle or integrated in trailers or existing facility infrastructure





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QUESTIONS AND OPEN DISCUSSION

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Appendix A

Other Industry Marketing and Use Case Examples

Hospital Use Cases: Energy Infrastructure and Resiliency

HOSPITAL & HEALTHCARE INFRASTRUCTURE

The Problem:

- Disasters can wipe out critical support systems necessary for essential facility operations and critical care, while the loss of power and communications impede resiliency response and basic patient habitability.
- Backup generation (diesel/natural gas) is costly, unreliable, and environmentally unfriendly, requiring extensive maintenance and physical monitoring while being susceptible to outside infrastructure and offsite coordination issues during natural disasters.
- Hospitals and critical care facilities require back up capability that is more reliable, cost effective, and efficient than outdated backup generators.

The Solution:

BlackStarTech Uninterruptible Power Supply (UPS) products provide comprehensive facility-wide power during normal operations and emergency outages, providing you with:

- Immediate power switchover/coverage in the event of power outages and natural disasters.
- Cost and resource savings through optimized maintenance, extended lifecycles, and even utility load shedding (using energy stored in the batteries during the day and recharging at night when power is cheaper).
- Remote monitoring capabilities and hardened resiliency solutions, all with a smaller physical and environmental footprint.

Utilizing our **QuantumCore UPS** and **Battery Energy Storage Systems (BESS)** enables your facility to supplement traditional power, cover immediate spikes and drops, and save money by transitioning facilities to stored power during the day and recharging overnight when power is cheaper. Our power solutions also support critical life support, communications, and facility infrastructure equipment during outages to help you to keep patients safe and comfortable.

BESS

Customized entire facility coverage inside a compact container enclosure to replace existing generator units, while providing a fifteen-year lifespan, remote monitoring, and virtually no maintenance.

QuantumCore UPS System

Completely scalable, rack-mounted integrated UPS battery systems that support uninterruptable power solutions for critical care, from operating rooms to entire hospital wings.

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Hospital Use Cases: Energy Infrastructure and Resiliency

RESILIENT COMMUNICATIONS

The Problem:

Essential facility communication and IoT/Broadband relies on both existing backup generation and availability of commercial carriers and services during natural disasters and long-term power outages making critical communications severely susceptible and unreliable. The worst-case outcome leads to:

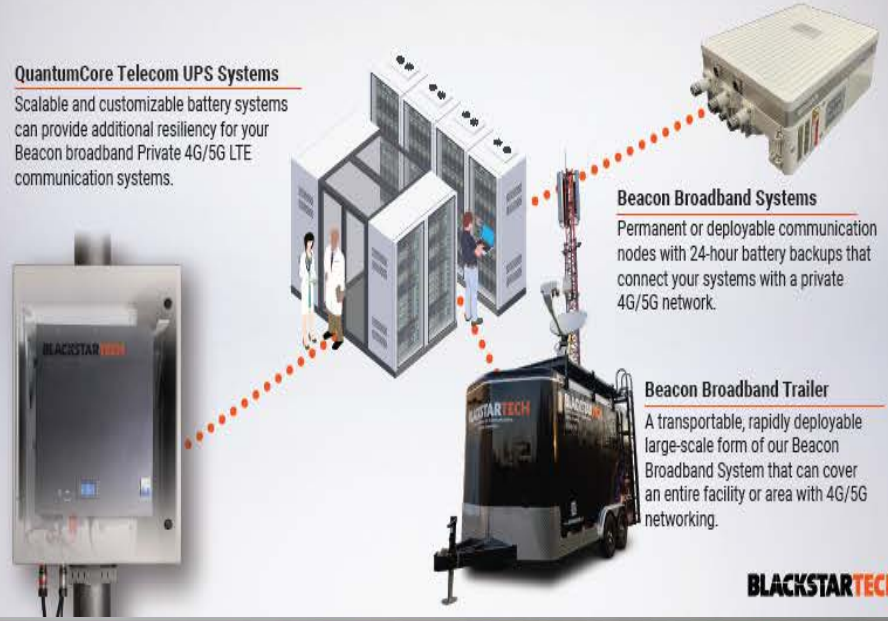
- Inconsistent service that depends on the service of third-party carriers.
- Reliance on pre-existing networks and infrastructure shared with consumers with uncertainty on availability in the most extreme emergency scenarios.
- Uncertainty on availability and security during disaster events, potentially impeding life-line communications, information, and automation.

The Solution:

Being able to access patient records and communicate with healthcare personnel across your facilities during blackouts and ELAP emergency events without interruption is crucial to maintaining continuous operations at your healthcare facilities. Our **Beacon Broadband Wireless** system is a comprehensive, self-contained private 4G/5G LTE communications system that can easily blanket an entire facility in a secure network to link all your record and communication systems together and communicate with the outside world, all while ensuring HIPAA compliance and information protection. Beacon Broadband Wireless provides a resilient private IoT broadband communication network integral to any essential facility and available during any postulated natural or human-induced natural disaster.

QuantumCore Telecom UPS Systems

Scalable and customizable battery systems can provide additional resiliency for your Beacon broadband Private 4G/5G LTE communication systems.



Beacon Broadband Systems

Permanent or deployable communication nodes with 24-hour battery backups that connect your systems with a private 4G/5G network.

Beacon Broadband Trailer

A transportable, rapidly deployable large-scale form of our Beacon Broadband System that can cover an entire facility or area with 4G/5G networking.

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Battery Energy Storage and Grid Applications:

QuantumCore™ BESS Power Station

Battery Energy Storage Systems (BESS) provide facility and grid level energy resiliency solutions with backup power, critical energy delivery, electric grid economic dispatch and even essential "Black Start" capabilities.

Battery Energy Storage Systems

The BlackStarTech QuantumCore industrial BESS provides state of the art battery and inverter technologies integrated in a comprehensive modular enclosure ranging from **175 kWh to 1400 kWh** in total energy storage.

The BlackStarTech BESS Modular systems are configurable as a standalone self-contained power delivery system with integrated inverter and HMI/RTAC protective controls or combined as a synchronized grouping of modular power containers operating as one overall power generating unit. BlackStarTech BESS can also be customized in specialty configurations or delivered with just battery modules to meet your specific facility or application needs. All BlackStarTech BESS construction, monitors, and controls are implemented using the most advanced industry technologies.

Applications

- Dedicated Backup Power Solutions
- Large Scale Backup Generator Replacements
- Economic Peak Shaving Response
- Grid Frequency or VARS Response
- Emergency Resiliency Response Planning Solutions
- "Black Start" Capabilities
- Electric Vehicle Rapid Charging Station
- Mobile Power Units for Construction Sites or Emergency Response Deployments
- Micro Grid Development
- Specialized Remote Location Energy Storage Systems

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Operational Modes

BlackStarTech BESS solutions operate in grid island mode, grid frequency or VARS response, load shedding or peak shaving dispatch or solely as a backup power system eliminating maintenance intensive and environmentally compromising backup diesel generators.

Each modular device is typically 20' by 8' by 9.5' tall and can be configured with integrated HVAC environmental controls; HMI/RTAC controls and protective relaying; diverse redundant fire protection and alarm monitoring via smoke, temperature and hydrogen monitors; fire suppression with clean agent and dry pipe water deluge systems; pressure equalizing vents; and standalone power conversion with a glycol cooled inverter. Custom containers are available in 10' and 40' sizes based on specific battery voltage requirements.

State-of-the-Art Battery Technology and Management System

The BlackStarTech BESS is powered by state of the art lithium iron phosphate (LFP) batteries and a comprehensive battery management system (BMS) that monitors and protects each battery module and integrates protection for the entire array of configured batteries to provide total battery system protection. Battery modules are typically 51.2VDC 210Ah with "plug and play" capabilities and configurations. However, custom solutions are available including specialized US manufactured BMS applications and monitoring.

Design

All BlackStarTech BESS construction, monitoring and protective controls are implemented using the most advanced technologies. The BlackStarTech BESS units are designed with a cost effective maintenance strategy utilizing remote monitoring and state of art performance trending and diagnostics. Each BlackStarTech BESS is designed to NFPA and UL 9540/9540A standard requirements with final UL 1973 and UL 9540/9540A testing results pending.

Clean and Reliable Energy Storage

BlackStarTech provides utility and power generation knowledge to design and deliver real world usability and reliability for your Energy Storage Applications. BlackStarTech provides over 100 years of critical nuclear generation related experience delivering essential design and resiliency requirements that can facilitate your transition to clean and dependable battery energy storage applications.

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