

# NICHOLAS LEKATSAS

## Electrical Engineering Manager

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### PROFESSIONAL SUMMARY

- Hardware engineering manager with a unique ability to manage interdisciplinary technical groups to create a cohesive team through trust and reconciling each contributor's perspective
- Experienced in hiring, training, managing workloads, motivating, mentoring and developing trusting and engaging employee relationships
- Problem solver delivering strategic solutions focusing on the big picture and company success
- Specialized in battery management systems, battery safety, power electronics, embedded systems, software integration

### TECHNICAL EXPERTISE

**Hardware:** High Power Batteries, DC-DC Power Electronics, Analog / Digital / Mixed-signal Design, AC Infrastructure

**Applications:** Microsoft Office, Altium, Windchill, BoM.com, SAP PLM, MS Visio

**Product Development:** Product Requirements, DFMEA, Design Validation, Accelerated Life Test, UL/CSA/CE Requirements

**Programming:** C/C++, Python, Shell/BASH scripting, Assembly, HTML

**Linux/Network Administrator:** Debian deployment/migration/backup, Apache2, NGINX, Rsync, MariaDB, Redis, Nextcloud, Wordpress, ProFTPD, Samba, Docker, Wireguard, ddwrt, firewalls

### PROFESSIONAL EXPERIENCE

#### Leadership Traits

- Navigated the complex circumstances of managing during the COVID-19 pandemic. Shifted the power engineering work of a global organization from office and labs to remote home offices with minimal loss of productivity and 100% employee retention rate
- Profound appreciation for every individual's unique technical expertise and diverse personal backgrounds. Understands each employee's desires and capabilities and thoughtfully applies them to the business challenges at hand to empower employees and improve retention
- Creates engineering culture across teams and disciplines. Identifies isolation or poor communication between individuals or groups, regardless of discipline. Seeks relationships to advocate for collective decision making resulting in more robust products with a reduced time to market.
- Proficient at troubleshooting and solving electrical engineering challenges for equipment, design, regulatory bodies, product installations, safety and infrastructure

#### Battery Design and Systems Engineering Experience

- Systems engineer and architect for the battery systems in several major consumer products. Lead the hardware and software teams to specify, design, validate and conduct safety testing of the battery and power systems. Self-performed the battery safety testing to ensure the battery hardware system and software behaved safely under all operating circumstances.
- Developed and refined the battery safety testing procedure used companywide for all battery powered products
- Created a complex template to accurately predict lithium battery shelf life and how it applies to useful product lifespan, allowable time between production and customer deployment and best practices to consider when designing a battery powered product
- Ran weekly battery community meetings to build a community of hardware and software engineers with the common goal of developing safe, highly competitive consumer products
- Developed a novel liquid metal BMS system from scratch including: all wiring and panel drawings, two complex and scalable PCBs capable of charging and controlling a 20+kW battery, high temperature (600F+) wiring and insulating ceramics specifications, multi-tiered safety system monitoring voltage isolation and temperature, electronic hardware and high voltage relay selection
- Developed a large scale 2W to 2kW scalable 48VDC lighting system from scratch. Included all low-level circuits to power the lights, digital communication modules for controlling the lights and a selection of various power supplies and digital communication module combinations used to power small installations (60W) up to whole building single point power sources up to 2kW

## Design Experience

- Lead engineer for ten product design cycles, seeing design from product requirements to launch including: system level integration, time estimation, cost analysis, technical and test specifications, prototyping, PCB design, design validation, regulatory compliance
- Well versed in UL/CE procedures and standards surrounding product design and documentation
- Able to develop mass production ready products utilizing manufacturing and design experience

## Research and Development Experience

### Patent Grants and Applications

US20140091732 - Transient power communication

US20140093002 - Pulse-based binary communication

USD694712 - Pair of positive and negative bi-pin adapters for solid state light sources

US8531131 - Auto-sensing switching regulator to drive a light source through a current regulator

- Product prototyping experience providing cost estimations and feature feasibility to marketing and sales
- Designed, built and programmed an automated lab setup to measure the propagation speed of plasma in linear fluorescents

## Manufacturing Experience

- Primary electrical point of contact for six contract manufacturers for all sustaining electrical work for Bose
- Redesigned tungsten welding electrodes and customized the electrical profile used to fuse together molybdenum foil and tungsten on a high-speed manufacturing line
- Designed, repaired and wrote the Java code that ran fifteen machine vision systems used to perform high speed automated inspections
- Principal process engineer for production lines totaling over 1.5 million high temperature tungsten electrodes per month

## EMPLOYMENT HISTORY

Bose Corporation, Framingham, Massachusetts. Engineering Manager 1/2019 – present

*A leader in the development, manufacture, and marketing of consumer and professional audio systems*

- Managed a team of 10 high performance, energetic engineers through all phases of the product development life cycle as it relates to battery systems, power electronics and audio systems

LumenPulse Group, Boston, Massachusetts. Engineering Manager 12/2015 – 12/2018

*A Montreal based company specializing in intelligent, high performance LED luminaires for commercial and institutional spaces*

- Managed a team of 5 engineers through all phases of the product development life cycle as well as being a lead engineer and substantial individual contributor

Ambri Inc., Cambridge, Massachusetts. Senior Systems Electrical Engineer 3/2013 – 11/2015

*A small startup focused on commercializing liquid metal grid storage batteries*

- System architect and lead electrical developer for designing and building a novel liquid metal battery management system

OSRAM Sylvania Inc., a Siemens company, Danvers, Massachusetts. Special Technology Engineer 3/2008 – 3/2013

*OSRAM is part of the Industry Sector of Siemens and one of the two leading lighting manufacturers in the world.*

- Worked in product design creating solid state lighting systems and in manufacturing facilities providing guidance and technical expertise to more than twenty mechanics, electrical technicians and machine operators

## EDUCATION & TRAINING

***BS in Electrical Engineering Technology*** – Wentworth Institute of Technology. Boston, Massachusetts

## OTHER HOBBIES

Server Administration • Gardening • Small Engines & Automotive Repairs • Handyman • Novice Carpenter • Home Chef