

Left Coast Engineering

a dba of Park-Tours, Inc.
810 S. Escondido Blvd.
Escondido, CA 92025
<http://Left.Coast.Engineering>



You Think It. We Build It.™

CAPABILITIES:

- Custom Product Design
- Audio
- Digital Design
- Firmware/Software
- Fluidics
- Intellectual Property
- Machine Learning
- PCB Design
- Power Supplies
- RF/Wireless
- Sensors
- Redesigns for supply chain parts availability
- Rapid Prototyping
- Reverse Engineering
- SWaP Design

PATENTS: Founder is inventor on 20+ issued patents.



Company Designators

DUNS: 157648077

SAM/UEI: KJSDS7MWALV5

CAGE: 706Z6

NAICS:

334220	334412	334418
334513	334515	334516
425110	511210	518210
519190	541330	541420
541511	541512	541690
541715		

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Left Coast Engineering (LCE) is a full-service, custom product design company focused on electronics and research & development (R&D). LCE has supported more than 250 designs from concept to production-ready, which includes: product definition, certification testing, production test, and validation/verification.

Differentiators:

- Intellectual property development, protection, expert witness resources
- DCAA-approved accounting system
- NIST 800-171 compliant.
- JCP-approved for DOD file access
- Eligible for Sole Source Direct Awards, SBA-Certified WOSB/EDWOSB
- SDB – Small Disadvantaged Business, self-certified in SAM
- Founded in 1999

PAST PERFORMANCE AND CONTRACT VEHICLES:

2023- Present	US AIR FORCE SBIR PHII FA8649-22-9-9006 Sub: Handheld Fuel Quality Monitoring System	\$774,975 Ongoing T&M
2022- 2023	NAVWAR/NAVAIR SBIR N68335-22-C-0219 Positioning Using Magnetic Anomalies Correlation of Earth	\$140,000
2021- Present	Robotics ML for Commercial Food Service Full product design on multiple products	\$1,300,000+ Ongoing T&M
2019- 2023	NSWC Corona N64267-19-C-0026 Fluidics System for FTIR in Metrology/Calibration Labs	\$830,420
2019- 2022	Commercial Robotics Floor Cleaners Full redesign of docking stations, due to supply chain issues	\$1,123,200
2018- Present	SEAPORT-NXG MAC Awardee, Prime and Team Member	
2016- Present	SSC PAC/NIWC N66001-16-D-0443 SAIC Team for Cybersecurity HW Prototyping, Reverse Engineering, IC Design	\$180,000,000
2016- 2021	SSC PAC/NIWC N66001-16-D-0068/0069 SAIC and G2 Systems Team for RF Comms HW Prototyping, IC Integration Design	\$26,700,000
2014- Present	NeuroEM – Commercial/Medical Portable TEMT and LADD devices Hardware, Firmware, Mechanical, Digital, PCB, RF, Power	\$480,000+ Ongoing T&M
2008- 2020	Commercial – under NDA Wireless Subterranean Soil Monitor Hardware, Firmware, Software, Digital, PCB, Power, RF, Sensor	\$1,637,000
2005- Present	DOD (3rd tier sub) PRU Position Reporting Unit devices-GPS Wireless Modem HW design: Digital, PCB, Power, RF, Sensors	\$326,000+
2014- Present	Commercial – under NDA Cable replacement Products for Smart Home	\$585,000+
2020- Present	Commercial – under NDA Electric Tankless water heater with internet connectivity	\$375,000+

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PROJECT
EXAMPLES



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Military and Government: As a prime and 2nd-tier contractor, LCE has supported more than 40 electronic designs that are used in highly classified systems for multiple agencies. With a proven track record of solving intricate, difficult, high-tech R&D challenges, LCE is able to consistently provide innovative solutions for its customers. Projects range from several months to several years; highlights include:

- **Positioning Using Magnetic Anomalies Correlation of Earth (PUMACE)** – defined a location-determination algorithm able to provide location accuracy at a much finer scale than magnetic data variation; technology is a navigation alternative in the absence of GPS. *Challenge – overcoming widely accepted industry standards from the last 40 years with an alternate approach that provides better results.*
- **GPS (Global Positioning System) Location-Aware Wireless Modem** – small, standalone, for field deployment including satellite and Local Area Network communications. *Challenge – interference between different on-board radios and tricky thermal issues.*
- **High Powered DC-DC Ruggedized Radio Power Supply** – Designed and certified the electronics for vehicular deployment. *Challenge – creating a robust input circuit capable of performing circuit-breaker type functionality while not responding to transients seen from the typical “dirty” power sources.*
- **Precision DC-DC Rackmount UUV Power Supply** – Very tight tolerance power supply for tethered UUV without remote voltage sense. *Challenge – tight tolerance needed to keep UUV voltage the same regardless of current load over long tether.*
- **Automated Fluidics System** – Designed and delivered complete custom units to support Navy MetCal labs, encapsulating sequences to maintain simple operation of a complex system. *Challenge – design of simple UI that is easy to operate plus allows configuration through a simple programming interface.*

Commercial: LCE has supported hundreds of product designs into manufacturing for a broad range of categories. As each new set of requirements arises, the LCE team uses their extensive background to find the optimal, most effective way to get the job done.

- **Portable TEMT Device** – Designed and built wearable units for a study on the use of RF in the treatment of Alzheimer’s Disease. Despite limited requirements, created electrical and interface specs, exceeding specifications. Phase I clinical trials with positive preliminary efficacy results; currently Phase II development.
- **Electric Tankless Water Heater** – Developed next generation water heaters with advanced functionality including self-diagnostics and remote control/monitoring. Created product industrial design, electronics partitioning, breakthrough flow sensing, firmware control, user interface, back-end server, phone app. Created unique design elements carried through the marketing of the product and implemented an intellectual property strategy with patent applications currently in pursuit.
- **Wireless Connectivity for Smart Home Appliances** – Provided low-cost hardware products that provide connectivity for various smart home devices. Management of supply chain issues over the course of 5 years of production of more than 2 million devices.
- **Dynamic Energy-Reduction Devices** – An array of power-consuming devices that dynamically reduce power in response to a Flex Alert or other external request for power consumption reduction
- **Wireless Subterranean Soil Monitor** – Designed system, product architecture & partitioning, complete hardware implementation, antenna design, networking protocol, embedded firmware, irrigation control, & all production test & configuration for multiple product generations. Dynamic mesh networking adapts to environmental/configurational changes, monitors network health while providing soil monitoring functions, uses dual-band radio to overcome the challenges of harsh underground, wet, and dry RF environments with primarily battery-driven components. Enhanced product through 4 generations for SWaP reduction and increased range.
 - *Overcame design and performance challenges of variable conditions of probe environment (very dry to completely submerged in water) and difficult underground requirements with specific antenna and protocol design.*
 - *Increased communications range by 72% over initial specifications.*