Left Coast Engineering
a dba of Park-Tours, Inc.
1201 E. Valley Pkwy, Suite 200
Escondido, CA 92027
www.leftcoasteng.com

LEFT COAST ENGINEERING®
You think it. We build it.™

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Company Designators

SBA Small Business WOSB

SBA WOSB
Woman Owned Small Business

DUNS: 157648077

CAGE: 706Z6

NAICS:

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

CAPABILITIES:

- Audio
- Digital Design
- Firmware/Software
- Intellectual Property
- PCB Design
- Power Supplies
- Product Design
- RF
- Sensors

PATENTS:
Founder is an inventor on more than 18 issued patents.

Summary: Left Coast Engineering (LCE) is a full service electronics product design resource from concept to production, including product definition, certification testing, production test, validation/verification and intellectual property protection. With a 19 year track record as a small business, LCE has steered more than 135 designs from start to finish.

PAST PERFORMANCE:

2016 to present — **SSC PAC N66001-16-D-0443** — **$180,000,000**
SAIC Team for Cybersecurity
HW Prototyping, Reverse Engineering, IC Design

2016 to present — **SSC PAC N66001-16-D-0068** — **$26,700,000**
SAIC Large Business Team for RF Comms
HW Prototyping, IC Integration Design

2016 to present — **SSC PAC N66001-16-D-0069** — **$24,500,000**
G2 Software Systems, Inc. Small Business Team for RF Comms
HW Prototyping, IC Integration Design

2014 to present — **NeuroEM – Commercial Medical** — **$157,000**
Portable TEMT and LADD devices
Hardware, Firmware, Mechanical: Digital, PCB, RF, Power

2008 to present — **Commercial – under NDA** — **$1,637,000**
Wireless Subterranean Soil Monitor
Hardware, Firmware, Software: Digital, PCB, Power, RF, Sensor

2005 to present — **DOD (3rd tier sub)** — **$326,000**
PRU Position Reporting Unit devices-GPS Wireless Modem
HW design: Digital, PCB, Power, RF, Sensors

2011 to 2012 — **Commercial – under NDA** — **$396,000**
Precision Delta Temperature Detector
Hardware, Firmware, Software: Digital, PCB, Power, Sensor

2011 to present — **Commercial – under NDA** — **$740,000**
Portable Real-Time Pathogen Detector
Hardware, Firmware, Software: Digital, PCB, Power, Sensor

2010 to 2011 — **DOD (2nd tier sub)** — **$15,000**
DC-DC Ruggedized Radio Power Supply
Hardware: PCB and Power Supplies

2005 to 2007 — **Commercial – under NDA** — **$77,000**
Portable MIMO (Multiple Input Multiple Output) Communications Hub
Processor & Networking Hardware: Audio, Digital, PCB

2005 to 2006 — **DOD (2nd tier sub)**
Mission Termination System
Hardware & Firmware Design: Digital, PCB, Power, Sensors

2005 to 2006 — **Commercial – under NDA**
Audio/Video Surveillance System
Audio and DSP Hardware: Digital, PCB, Power, Sensors

2004 — **DOD (2nd tier sub)**
High-Powered Acoustic Defense System
Audio and Power Supply: Digital, PCB

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Past Performance

Military and Government: LCE has designed more than 25 electronic products as a second-tier on highly classified systems for multiple agencies over the past 10 years, with projects ranging from several months to more than a year. With a proven track record of solving intricate, difficult, high-tech challenges, LCE is able to consistently provide innovative solutions for its customers. Highlights include:

- **GPS (Global Positioning System) Location-Aware Wireless Modem –** small, standalone, for field deployment including satellite and Local Area Network communications. Challenges - interference between different on-board radios and tricky thermal issues.
- **Mission Termination System** - Embedded firmware and control software. Challenges – Size, weight, ruggedness, and reliability.
- **Audio/Video Surveillance System** - Audio detection and control hardware to capture directional video surveillance based on audio event triggers.
- **High Powered DC-DC Ruggedized Radio Power Supply** - Designed and certified the electronics for vehicular deployment. Challenges - robust input circuit capable of performing circuit-breaker type functionality while not responding to transients seen from the typical "dirty" power sources.
- **High-Powered Acoustic Defense System** - Designed amplifier and power supply. Challenges - High gains required very low noise input circuits, redesigned front ends and audio sources to exceed specifications.
- **Portable MIMO (Multiple Input Multiple Output) Communications Hub** – Hardware design for temporary infrastructure in disaster situations and overseas camp installations.
- **Dual 30VDC Output Power Supply** – Designed with tight voltage range tolerances in a small package.

Commercial: Designs completed by LCE fall into a broad range of categories, from car location devices that use custom directional antennas with an advanced algorithm to determine direction of an incoming signal, to wireless object detectors that sense the presence of targets over relatively short distances. As each new set of requirements arises, the LCE team finds 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. Currently in Phase I clinical trials with positive preliminary efficacy results.
- **Portable Real-Time Pathogen Detector** – Prototypes developed for the food industry, included detection hardware, control hardware, detection algorithm, touch-screen user interface, PC-based support apps for network configuration and data gathering, dynamic sensor monitoring, and remote experiment management.
- **Precision Delta Temperature Detector** - Device detects and records extremely small variations in temperature to a billionth of a degree. Electronics include hardware, control, advanced sensor technology, and user interface that walks users through experiments and controls the motors, valves, and pumps integrated into the device. Created a PC-based application for post-processing and analysis of experiment data.
- **Wireless Subterranean Soil Monitor** – Designed system, product architecture and partitioning, complete hardware implementation, antenna design, networking protocol, embedded firmware, irrigation control, and all production test and configuration for multiple product generations. Dynamic mesh networking adapts to environmental and configurational changes and monitors network health while providing soil monitoring functions. Uses a dual-band radio to overcome the challenges of harsh underground, wet, and dry RF environments with primarily battery-driven components.
  - Currently enhancing the 4th generation of this product, reducing product size while increasing communications range and reducing power requirements.
  - 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.