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# OptimalDesign

## a Deloitte business

Optimal Design, a Deloitte business, is a leading product engineering services company specializing in the innovation and development of smart connected products and Internet of Things (IoT) devices. Together, Optimal Design's multidisciplinary product engineering services talent and Deloitte's leading-edge capabilities help clients unlock innovation and achieve their digital transformation goals.

### What we engineer

### Wearable technology

- Smart watch/Wrist-worn devices
- Wellness wearables
- Pet wearables
- Augmented/virtual reality

#### **Connected devices**

- 5G-enabled devices
- Smart city
- Smartphones
- Asset tracking hardware

### Lifestyle

- Smart home appliances
- Personal care/wellness
- Vehicle technology

### **Our services**

# Premier US-based design and engineering

- Industrial design
- Electrical
- RF and antenna design
- Mechanical
- Software
- Prototyping

### **Product technology strategy**

- Research and development
- Technology roadmap
- Device platforming
- Reverse engineering
- Intellectual property strategy

## Optimized engineering cost structure

- Nearshore/offshore software engineering teams
- Sustenance software engineering
- Automated/manual software testing
- Product BOM cost optimization
- Supplier design transfers

## **Technology accelerators**



Battery management



Over-the- air device updates



Asset tracking



Heart rate and biometrics



Mobile display drivers/interfaces



Beamforming microphone



GI



Haptic feedback



Alexa integration



Qi wireless charging



Digital signal processing



Machine learning



Imaging systems



Motion sensing



Location tracking



Capacitive touch



Bluetooth low energy



WiFi



LoRa



Cellular



Tags and

# **OptimalDesign**

# **Engineering**

## a Deloitte business

Here are a few examples of our successful market-facing solutions:

### **Dementia Wearable**

Designed, engineered, and developed by Optimal Design, CareBand is wearable technology that gives seniors the opportunity to live safely and in the least restrictive manner possible, while providing caregivers and families with insight into daily living behavior.

- System architecture
- UI/UX design
- Mechanical and electrical engineering
- Firmware development
- RF and antenna design
- Prototyping and verification

### **OBD II Tracker**

Optimal Design architected, designed, and engineered the world's first LoRa enabled asset tracking system for vehicle applications. Including high-accuracy GPS tracking, DTC engine code scanner, Geofence capabilities, Bluetooth connectivity, and real-time vehicle status monitoring.



- Industrial design
- Mechanical and electrical engineering
- RF and antenna design
- Firmware development
- Prototyping and verification

### **Virtual Reality System**

Optimal Design developed the first completely immersive and untethered virtual reality system. The system features state-of-the-art proprietary hardware and software designed entirely by Optimal Design to overlay a virtual environment onto real-world objects. Our team of technologists took our partner's idea from a whiteboard concept to an internationally deployed system.



- Mechanical engineering
- · Electrical engineering
- Firmware development
- Optics engineering (proprietary)
- Prototyping and verification

### **Additional Successful Projects**

- BLE/WiFi connected smoker grill with custom cooking algorithm
- WiFi connected smoke and CO detector for leader in home safety
- Premium-tier hair dryer featuring +110,000 RPM brushless DC motor
- IoT connected makeup applicator for global personal care brand
- IoT connected and sensor-enabled pet access system for smart home

Learn more about Optimal Design innovations on our website optimaldesignco.com









