



WIRELESS DESIGN SERVICES



Innovate.

To introduce something new or to make changes in anything established.

We understand that you are faced with new product launches and upgrades to existing product lines that are critical to your organization's growth. Deadlines are tight and product launch dates are set.

It's never been more important to have a trusted partner on your side with the expertise, experience and proven methodology to get you to market faster.

Etherios is here to help you every step of the way. And with thousands of projects under our belt, we have the experience to ensure a successful solution.

Whatever your challenge, you can turn to Etherios. We are experts in solving business problems with M2M technology. We have the skills and capabilities to provide you with an end-to-end wireless design solution for any product. Contact us today to bring your idea to market.

Get to Market Faster.

Having the right partner on your side makes all the difference.

80% of all new cellular designs fail certification.

Product development is a complex process. Adding cellular connectivity adds additional layers of complexity and requires a specific type of expertise. Cellular products are required to pass an additional level of certification before they are allowed on the carriers' networks. Failure to successfully navigate the certification process will result in costly product redesign and missed revenue opportunities.

Having the right partner on your side, though, can make all the difference. With Etherios, we guarantee that any product we design from start to finish using our proprietary methodology will pass FCC and carrier certifications. And if it doesn't pass the first time, we'll pay to make it right. With a state-of-the-art RF lab, a dedicated team of engineers and a library of proven IP we have the tools and resources to get you to market faster.

Your Complete M2M Solution

Connect

Etherios has the expertise to enable you to seamlessly connect to any device. Our expertise spans off-the-shelf M2M hardware selection and custom M2M design. Based on a number of criteria, our Wireless Design team will guide you through the selection, development and deployment of M2M solutions that enable wireless communication and connectivity across any product.

Control

Device Cloud by Etherios™ enables companies to leverage the power of the Cloud to manage and control their devices and device data. Our customers easily gather and integrate their network of devices and device data using our industrial strength Device Cloud platform-as-a-service offering.

Engage

Engage is where we bring device data to life to drive unmatched business results for our customers. We integrate actionable device information into an organization's business processes on their CRM platform or build a custom application tailored specifically to their business requirements by leveraging our cloud-based application, The Social Machine®.

Connect



Seamlessly Connect



Hardware



Wireless Design

Control



Gather & Integrate



Device Cloud by Etherios™

Engage



Business Process Applications



The Social Machine®



Salesforce.com (CRM)

Advisory and Consulting Services

Wireless Design Services

Whether you call the technology machine-to-machine (M2M), connected devices or embedded systems, connected machines are fast becoming the eyes and ears of the home and enterprise.

With thousands of projects under our belt, a world-class RF lab, experienced engineers and a library of proven IP, Etherios is your trusted partner to get your product to market.

Our proven methodology takes you through a process where we actively listen to your business and technical requirements. Based on these findings we design a solution that is tailored to your specific requirements.

Etherios Wireless Design Services is one of the largest independent M2M design firms in the world. We help companies solve business problems by embedding wireless technologies to create innovative M2M products and services that help your organization:

- Decrease costs
- Increase revenues
- Generate new revenue streams



VALUE
DELIVERED }

Etherios Enhances Quality of Life for Diabetes Patients and Their Families

PROBLEM

18.8 million people live with diabetes and many do not have the freedom to leave their home and effectively monitor their blood glucose levels.

SOLUTION

Etherios developed a solution that gives patients back their freedom and provides peace of mind for their loved ones. By using monitors embedded with wireless technology, families can now stay informed with automated updates communicating the status of a loved one's health.



DELIVERING
CUSTOMER
SUCCESS →

VALUE
DELIVERED }

Monitoring Plant Health Drives Higher Production Yields

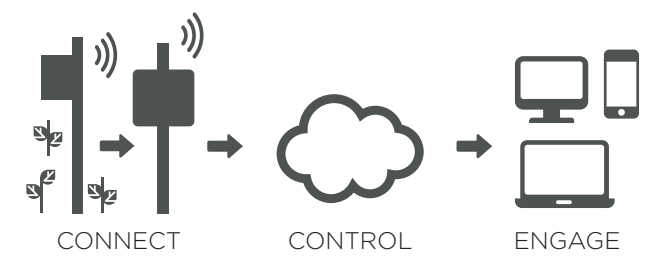


PROBLEM

Weather and soil conditions can impact the stress on a plant. These stresses can adversely impact crops, reducing yields and revenues.

SOLUTION

Etherios built a wireless network of predictive smart sensors leveraging an algorithm developed by the USDA to more effectively monitor plant health. This data helps farmers proactively manage the health of the plant, thus maximizing crop yields and profits.



VALUE
DELIVERED }

Predictive Monitoring Turns an Old Problem into a New Revenue Stream

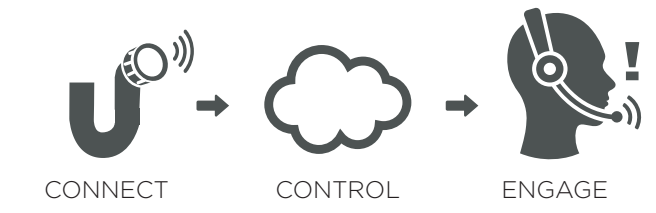


PROBLEM

It's not a matter of if a hydraulic hose will go bad, but a question of when. When hoses fail, companies spend millions of dollars on hydraulic fluid cleanup, fines and medical costs for injuries.

SOLUTION

Etherios designed a wireless monitoring system to predict hose failure before an issue occurs. We helped a century-old Fortune 200 company turn this big problem into a new revenue stream.



VALUE
DELIVERED }

Embedded Cellular Radios Enable Smart Waste and Recycling Collection



PROBLEM

Lack of visibility into waste and recycling stations results in late or inefficient truck rolls, which negatively impacts operational costs and customer service.

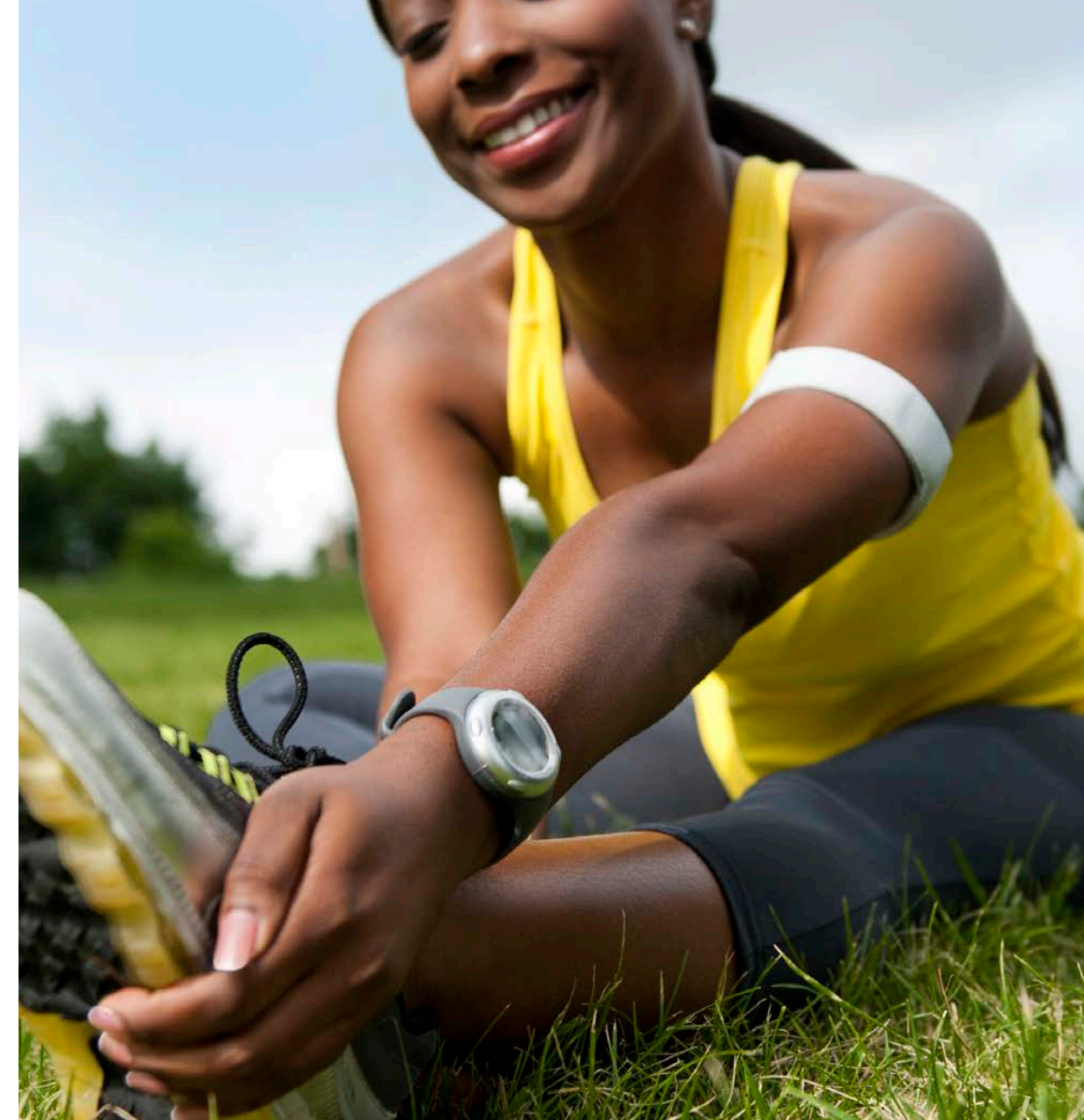
SOLUTION

Etherios embedded cellular radios into solar powered trash and recycling compactor units to help BigBelly Solar monitor trash from any computer or smart phone in real-time. The company can now see their entire portfolio of waste and recycling stations and determine whether collection is needed. This knowledge empowers just-in-time collection, saving time and fuel while eliminating overflow issues.



VALUE
DELIVERED }

Multi-Sensor Body Monitor Improves Individual Health and Wellness

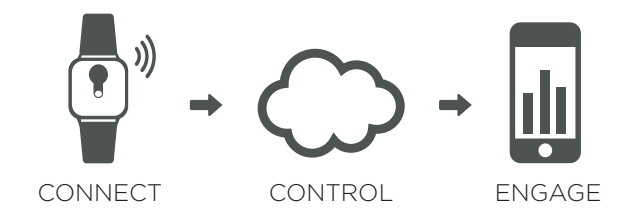


PROBLEM

Individuals seeking to make more informed health and wellness decisions were limited in their ability to make actionable decisions.

SOLUTION

Our team integrated Bluetooth Smart Ready technology into a wearable body monitor, enabling real-time data to be sent to an individual's smart phone or tablet. With access to actionable information via mobile or online applications, consumers can now make better on-the-go food and exercise decisions.





Our Capabilities

Whether you are upgrading an existing device or designing a new product from the ground up, Wireless Design Services can bring your device to market quickly and cost effectively. We can do this because our engineers are experts in cellular (all generations and technologies), GPS, Wi-Fi, ZigBee, Bluetooth and a wide variety of proprietary protocols.

With thousands of successful M2M designs delivered, our team understands the full complexities as well as the subtle nuances that are required when designing and building a great wireless solution. Our rigorous design process is structured to successfully take your product from concept to production, but flexible enough to allow you to leverage any of our services on a standalone basis.

We are focused on one goal - your success.

Services

Consulting Services

Deciding as early as possible whether your product idea can be translated into a technically and commercially feasible product is critical. Our System Architects will identify technologies that contain the key attributes described in the product concept and can be produced within the budgeted cost.

Design Analysis

Whether your product just failed certifications or you want assurances that it will pass the first time, a design analysis will help minimize time to market and certification costs. The Etherios Wireless Design team can leverage our vast experiences and perform a comprehensive design analysis and lab testing focused on RF performance optimization and mitigation of EMI/EMC issues.

Industrial Design

Great industrial design accounts for the user's needs and combines them into a homogeneous blend of economics, ergonomics and practicality that results in a professional product for the marketplace. Our team has the expertise to take you from idea to production with a design that delivers real business value to your customers.

Firmware Design

Hardware design issues cause certification failures and are frequently seen before a product ships. Firmware design issues can easily remain undetected until a product is in the field and can cause customer and market rejection from which your product, and potentially your business, cannot recover. Our expertise with firmware for space and power limited systems will reduce your risks.

Software Design

Whether you need a BSP for a new platform or an embedded, PC, web or mobile application, our team of software developers can help. Our experience with Embedded Linux, Android, iOS and a variety of other operating systems, platforms, languages and frameworks will help you get your devices connected and your product to market.

Wireless Design

No matter how you refer to it, machine-to-machine (M2M), connected devices or the Internet of Things, The Etherios Wireless Design team can assist you in defining and designing the right solution. With so many wireless technologies available today, our team will help you reduce risk and time to market by taking a holistic view of your organization's needs.

Antenna Design

A well designed antenna creates a high performance wireless product that meets the size and aesthetics requirements and is certification ready. The Etherios Wireless Design team will assist in selecting or designing the correct antenna to optimize your design from both technical and cost perspectives.

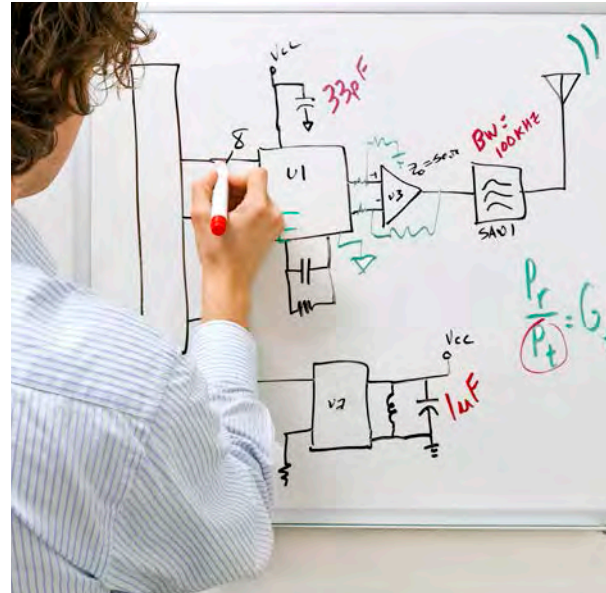
Certification Assistance

Adding wireless technology to your product not only adds complexity, but also a layer of regulatory and certification requirements. Our team is experienced in global, wireless certifications and can help you efficiently navigate complex wireless certification processes and get your product to market.

Our Methodology

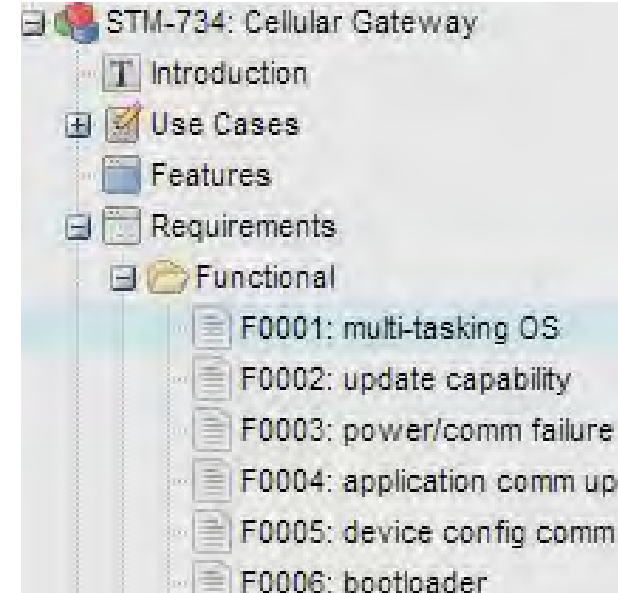
Realize Your Vision

Innovation can be built into a structured and repeatable process. Using our proven methodology combined with our team of engineers, we deliver innovative, reliable solutions for our clients every day.



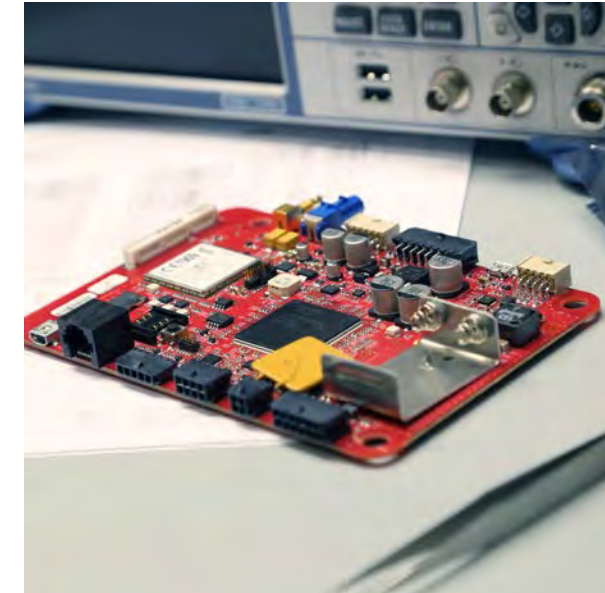
00 | PLAN

- Interview key stakeholders
- Capture preliminary use cases and requirements
- Define high-level system architecture
- Conduct feasibility and trade-off analyses



01 | REQUIREMENTS

- Document use cases
- Create a detailed Product Requirements Definition document
- Develop a Design Verification Plan
- Establish project governance framework



02 | ALPHA DEVELOPMENT

- Complete preliminary hardware, software and mechanical design.
- Alpha-level prototype build and test:
 - Hardware/software integration
 - Design verification testing
 - Pre-certification testing



03 | BETA DEVELOPMENT

- Design updates based on findings from alpha prototypes
- Beta-level prototype build and test:
 - Hardware/software integration
 - Design verification testing
 - Pre-certification testing
- Conduct pre-scanning certifications



04 | CERTIFICATION & PRODUCTION

- Document and complete CE/FCC, safety and cellular carrier testing and certifications
- Deliver final product documentation (e.g., PCB files, mechanical CAD, software binaries) to the contract manufacturer
- Deploy and automate test system to support end-of-line functional testing
- Provide ongoing support



With thousands of projects under our belt, a world-class RF lab, experienced engineers and a library of proven IP, Etherios is your trusted partner to get your product to market.

7 Factors to Consider When Choosing the Right Design Partner

- 1 Wireless design expertise**

When considering all the moving parts such as software, firmware and hardware development, antenna design and certifications, experience designing wireless products is invaluable. Creating a new wireless device requires in-depth understanding of technologies that can only be acquired through experience – and with thousands of successful designs under our belt, using Etherios Wireless Design increases your chances for success.
- 2 State-of-the-art equipment and experience to build and test your device**

The key to a successful wireless product is thorough testing with the right equipment. Etherios Wireless Design has spent millions of dollars training our team and purchasing state-of-the-art equipment so we can build great wireless products that exceed certification standards. Our on-site lab includes anechoic chambers, screen rooms, isolation chambers, call boxes (cellular tower simulators), network and spectrum analyzers, GPS simulation systems, Universal Radio Tester (Wi-Fi, Bluetooth, ZigBee, etc.) and state-of-the-art software for antenna simulation and design.
- 3 Deep knowledge of carrier rules for a cellular device**

In addition to FCC regulations, carriers such as AT&T, Verizon and T-Mobile have up to 15,000 requirements to consider before they will allow a device on their network. Etherios Wireless Design Services has the design experience and the firmware expertise to make sure your product has addressed requirements such as access retry rules, account awareness rules, radio release handling and timeout and graceful disconnects handling.
- 4 Security considerations**

Wireless products need to be secure but product designers are often unaware of the specific market or regulatory requirements. Etherios Wireless Design Services will help you navigate the many choices when designing your product such as industry-standard TLS (i.e., SSL), server authentication, packet-based encryption of other data paths and serialization to prevent message replay of data packets.
- 5 Understanding the FCC certification process**

One of most important considerations when developing a wireless product is meeting the strict criteria to pass FCC and cellular carrier certifications. Thorough beta level testing and awareness of requirements through the design and development processes are needed to guarantee passing certifications.
- 6 Knowledge of the cellular certification process**

Before boxing up your device and submitting it to the certification lab for approval you need to make sure you understand how to successfully navigate the certification process. If you haven't thought about things such as having devices programmed to power up and automatically enter test modes, having proper antennas, and documenting installation configurations – or if you don't know what any of that means – we can assist you or manage the process entirely.
- 7 Passing certifications**

80% of all first-time designs fail certification. Successfully navigating the certifications process minimizes risk, allowing you to meet your product launch and project cost targets. Etherios Wireless Design Services guarantees that any device we design will pass the certification process the first time or we'll pay to make it right.

Contact us to realize your vision

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