

# Gizmos and Gadgets



## Tiresias Technologies

I WANT SOMETHING THAT  
**SOLVES MY PROBLEM**

*We Make Things  
The kind you can actually touch,  
hold in your hand, plug into the  
wall or network*

# Engineering Design

**OUR FAVORITE COMPUTER LANGUAGE IS "SOLDER"**

- > Digital Design
- > FPGA design
- > PCB Layout
- > PCB Fabrication and Assembly
- > Enclosure Fabrication
- > Design for Manufacture
- > Hardware Software Co-Design

WHERE TECHNOLOGY MEETS INTELLIGENCE

## Building It From Scratch

We make things. The kind you can actually touch, hold in your hand, plug into the wall or network. Intelligent Systems and devices. Intelligent Systems are embedded systems and devices that are inherently networked. **The Internet of Things.**

What we mean by Engineering Design at Tiresias Technologies is the concept that design includes all aspects of a product/device/project lifecycle. Cradle to grave, concept to reality. That means hardware design, firmware design, prototyping, PCB layout/design, assembly and package design.

Other than prototype runs, we do not manufacture. There are places that do a great job with that, and we can bring them to the table for you. What we do is the design, the intellectual property of your idea reduced to practice. Will we knock out a fantastic prototype, you bet!

When possible, it makes sense to leverage the economies of scale presented by commercial hardware. The COTS vendor does this for a living, our job is to take the wonderful things they make and marry it to your application space. And when there is a bit more "glue" required, or a special need, we make that too. You do not have to try and fit the square peg in the round hole with us. We make round pegs.

We do not operate with a "throw it over the transom" mindset. That means we offer you the broad experience that holds the entire design effort together. We will show you what we did, how it works, and what you need to do to maintain it.

Of course we do not stop there, because today's reality is that firmware and software are integral components of any system. So our COTS Integration, Custom Hardware and complete Software Development represent the "whole enchilada". And because we do it all under one roof you can be assured that it works together. There will be no "finger pointing" later on. We promise.



Where Intelligence Meets Technology

# Engineering Design

*“Scientists investigate that which already is; Engineers create that which has never been.”  
- Albert Einstein*

## THE TOOLS

There is an often said phrase. “The tools belong to the person who knows how to use them.” That is true in Engineering Design as well. In some cases it can make or break the effort. To that end Tiresias Technologies has state of the art hardware/firmware development tools and equipment.

We do our schematic design, digital design, simulation, PCB design and layout using Altium Designer™. We have FPGA hardware design target platforms. We prefer to work with the Xilinx™ family of FPGA devices and the Xilinx™ tool chain. For mechanical and package design we use the industry leader, Solidworks™. As to laboratory test equipment we have some of the best on the market from folks like Agilent™, Tektronix™ and others. And when it comes time to put together that prototype we have state-of-the art surface mount assembly and rework systems capable of supporting micro BGA devices.

## EXPERIENCE

Here is a very short list of projects/programs/customers our staff has done work for:

- |                                      |                          |
|--------------------------------------|--------------------------|
| Army Research Lab                    | Philips Medical Systems  |
| Agfa                                 | Scientific Atlanta       |
| Department of Defense                | SPARTA                   |
| Honeywell ACS                        | Naval Observatory (USNO) |
| ITT Industries                       | Naval Research Lab       |
| Jet Propulsion Laboratory            | Wind River Systems       |
| National Radio Astronomy Observatory |                          |
| Large Unnamed Government Agencies    |                          |



# Tiresias Technologies

[www.TiresiasTechnologies.com](http://www.TiresiasTechnologies.com)

Tiresias Technologies, Inc.  
PO Box 191, Savage, MD 20763  
301.526.0622

## > Digital Design

We do bits. And nibbles and bytes too. That means logic, CPUs, busses and the like. We can do “ana-digital” work too. RF, nope, we’ll leave that space to those wizards. And work with them when we need them.

## > FPGA Design

Verilog, VHDL we do not care. What matters is does it fit? Is it fast enough? Does it work? We leverage existing IP cores to get you there faster and cheaper.

## > PCB Layout

We believe in cradle to grave design. That means the engineer that did the design does the layout too. That way nothing is lost in translation.

## > PCB Fabrication and Assembly

We work with fabrications houses to build the designs we have created for your effort. We then will populate and debug that design with our state of the art tools and systems

## > Enclosure Fabrication

We don’t bend metal, there are other folks that do that great and we work with them. The same for plastics. What we do is make sure the packaging and system design all come together before those craft folk are tasked

## > Design For Manufacture

If you cannot make more than one of something what is the point? It is easy to design a one off. Designing something that you are going to make “N” of means you need to pay special attention to how it is built every bit as much as what goes into the BOM.

## > Hardware Software Co-Design

If your project needs code to be a reality then you need us. Instead of one team working the hardware and another software, and both pointing fingers in integration, get one team. Hardware designed for software, and software that understands hardware.