

# ELECTRONICS DESIGN HOUSE





**Our Design, Your Success!**

**You have a dream; we can bring it to life!**

## Who we are

### NEURONICWORKS ELECTRONICS DESIGN HOUSE

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NeuronicWorks Inc. is one of the top engineering design houses in the heart of Canada's leading tech community. We focus our efforts on helping companies realize their vision with innovative designs and engineering solutions that are reflective of today's latest technological developments. By combining our professional experience with the ability to analyze, design and implement a wide range of advanced electronic systems (embedded and/or standalone), we design products that solve today's technical challenges and that are ready for tomorrow's market reality.

Established in Toronto in 2009 by two visionary engineers, Simona and Titu Botos, NeuronicWorks initially focused on electronics and software development. Over the years, the company has grown into a powerful design house with a diverse team of over 50 designers and engineers, with a wide range of expertise in futuristic technologies, innovative design, and inventive product development. We work on all phases of electronic product development, from initial concept design to certification and manufacturing.

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## FACTS & FIGURES

400+  
COMBINED YEARS OF  
EXPERIENCE

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200+  
SUCCESSFULLY  
COMPLETED PROJECTS

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50+  
IN-HOUSE DESIGNERS

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15+  
INDUSTRIES DISRUPTED

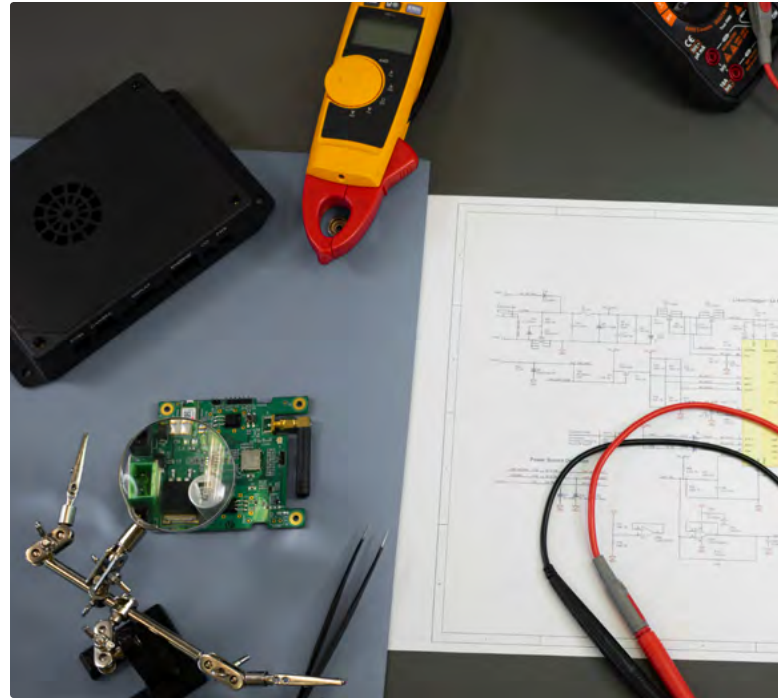
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## WHY NEURONICWORKS?

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NeuronicWorks provides turnkey, end-to-end, custom electronic product design and embedded engineering services including hardware design, embedded firmware, FPGA design, PCB design, software development, application development, graphic and industrial design, mechanical design, prototyping, testing support, qualification and certification support and manufacturing.

Till date, we have delivered over 200 successful projects across industries like medical electronics, industrial control and automation, automotive electronics, home automation, wearable technology, consumer electronics, and others.



We have built strategic partnerships with brands like Analog Devices, Microchip, Telit, STMicro, SiliconLabs, SiTime, Innophase, TUV, Nemko and Orion. We are also partnered with major distributors like Arrow, Avnet, DigiKey and Mouser Electronics.

We also work closely alongside several business accelerators and incubators across the country focusing on growing and mentoring new businesses across the country.



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## WHAT TO EXPECT?

We strive to provide the best possible experience that complements your innovative mind. We do the heavy lifting so that you don't have to. The values we live by create the foundation in which we can let our imaginations run freely.



### Concept

Ideate with our experts, discuss your next big idea.



### Design

Our engineers will architect your product, moving from the idea to an actionable plan.



### Engineering

We build the product using cutting-edge technologies.



### Collaboration

We work closely with you and keep you posted on the progress at every step.



### Product

We deliver your product on time, speeding time to market.



### Support

We are with you every step of the way, supporting you and your clients.

## What we offer



### HARDWARE DESIGN

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Our hardware engineers are industry veterans when it comes to designing what's under the hood. From micro power to kW systems, from instrumentation to control, from analog to digital or mixed circuitry, we know what it takes to make things work from the ground up.

Proficiencies: OrCAD, PADS, Altium, EAGLE, HperLynx, Apple's MFI Development Licensee.

- *Mixed Signal Schematic Design*
- *High speed, High density PCB Layout*
- *Miniaturization*
- *Wireless Designs*
- *Sensor Integration*
- *Low power and zero power designs*
- *Motor Control*

### FIRMWARE DESIGN

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Our team of software engineers specialize in the development and design of software for embedded systems. Let us design a solution that ensures your hardware works smoothly, efficiently and as intended.

Proficiencies: C and VHDL, Apple's MFI Development Licensee.

- *Embedded development: Bare metal, C/C++ on Embedded Linux, FreeRTOS, other real-time operating systems*
- *Sensor and peripheral driver development*
- *Developing board support packages*
- *Cloud integration*
- *Device security and secure communication, data encryption and authentication, certificate management*



## SOFTWARE DEVELOPMENT

We will take the time to understand the key requirements and strategically break down the task at hand. From there, we will design a solution that envelops your end goals utilizing the appropriate development environment and programming language.

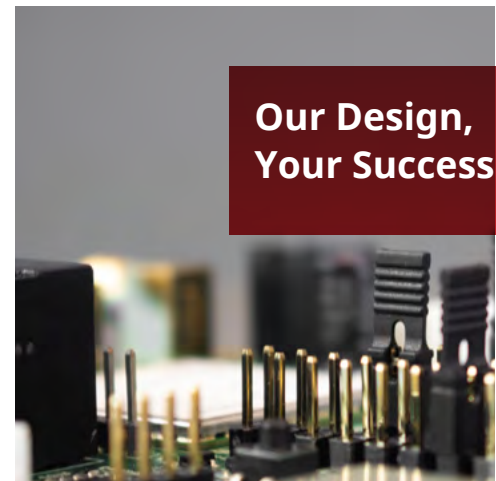
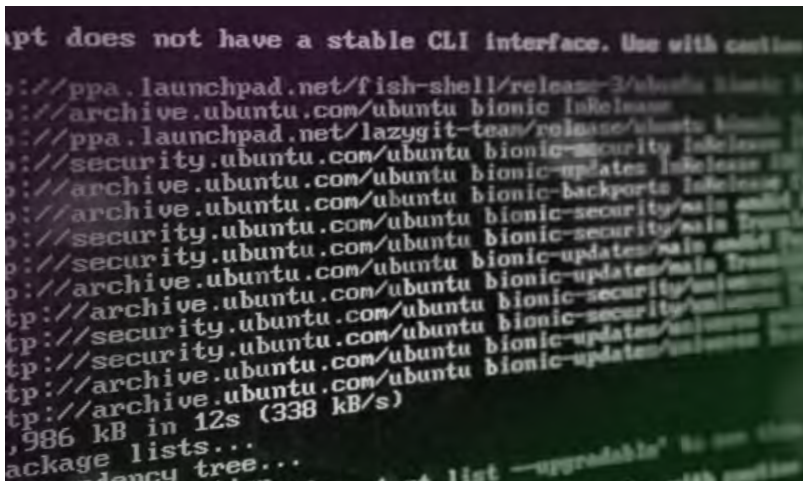
Programming proficiencies: C, C++, C#, Java, Python, Ruby.

- *Design, development & maintenance of software for mobile, web and desktop applications*
- *Software & application porting across different operating systems & platforms*
- *Embedded applications such as GUIs, middleware, and protocol stacks*
- *Software optimization, feature enhancement & performance tuning*

## FPGA DESIGN

Our FPGA design engineers specialize in a wide range of applications including high speed data acquisition and processing, video processing, high speed memory and network interfaces, advanced algorithm development, ASIC prototyping and feasibility study, among others.

- *FPGA Digital signal processing for Logic Design*
- *Complete Design Flow including RTL Design, HDL Code (VHDL / Verilog), routing, timing closure, simulation and verification*
- *Multi million FPGA/CPLD designs*
- *ASIC prototyping and verification on FPGA for early Software/Driver bring-up*



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## APPLICATION DEVELOPMENT

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Let us create for you a responsive, user-friendly web and/ or mobile application that will work with any smart device – phone or tablet. Whether your target customer is the end-user or a business (B2B), we have the right solution for you.

Proficiencies: HTML, CSS, JavaScript, Objective-C, Java, Apple’s MFI Development Licensee.

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- Custom web app and mobile app design
  - Cross platform application development
  - Application management and maintenance
  - iOS (Apple MFI Licensee) & Android App development

## UX/UI DESIGN

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Our designers will help you understand your customer’s User Experience (UX) and User Interface (UI) design needs, whether for web, mobile, desktop, or embedded systems. We will develop intuitive and cutting-edge solutions through rigorous research and prototyping, extensive user testing, and an iterative design process based on continuous feedback.

Proficiencies: Adobe XD, Sketch, Figma, InVision.

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- User discovery research
  - Logical and Intuitive Information Architecture
  - Sketching, Paper Prototyping, and Wireframes
  - UI and Visual Design
  - Prototyping and User Testing







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## INDUSTRIAL AND MECHANICAL DESIGN

The aesthetics of a product is just as important as its functionality or the components inside. We'll convey the idea you have in your imagination both on paper and digitally. It's tricky to perfectly match what you have in mind, so we'll continue to improve the look and feel of the idea until you're satisfied.

Proficiencies: SolidWorks, Adobe Suite, MODO.

- *Design, development & maintenance of software for mobile, web and desktop applications*
- *Software & application porting across different operating systems & platforms*
- *Embedded applications such as GUIs, middleware, and protocol stacks*
- *Software optimization, feature enhancement & performance tuning*

## PROTOTYPING

Nothing feels better than having your idea in front of you. From the design stage to integration, we will build a functioning prototype for your viewing pleasure. Using techniques like 3D printing, or injection molding the end result is a realistic model that depicts your idea in a physical form.

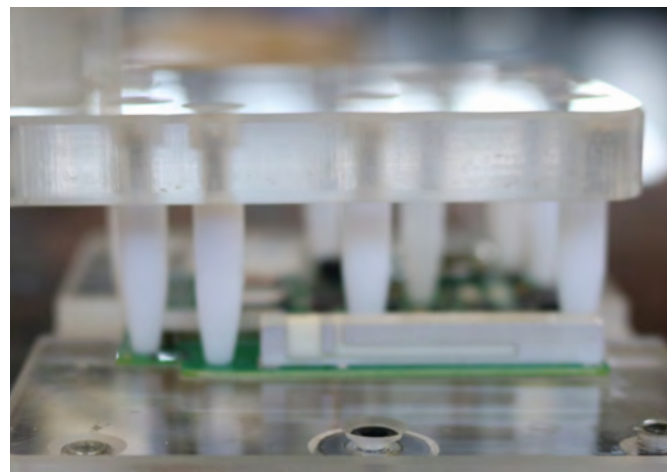
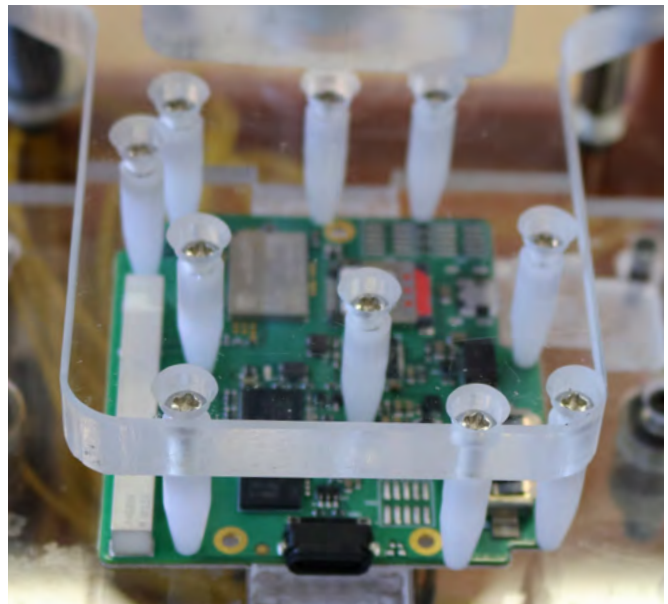
- *- High resolution prototype*
- *- 3D modeling*
- *- 3D Printing*

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## TESTING SUPPORT

Testing and the development of test systems are an integral part of our development process and we offer both the infrastructure and expertise to deliver rigorous inspection and testing as part of our design services. We have developed numerous automated test systems and test jigs to support high volume production. For environmental testing, certification, and qualification we work closely with reputed third-party labs.

- *Reliability testing (Burn-in, In-circuit, Performance)*
- *Environmental testing (Temp, humidity, vibration, radiation)*
- *Manufacturing testing*
- *Unit testing*
- *Integration testing*
- *Functional testing (white and black box)*
- *Regression testing*
- *Performance testing*
- *Sanity Testing*



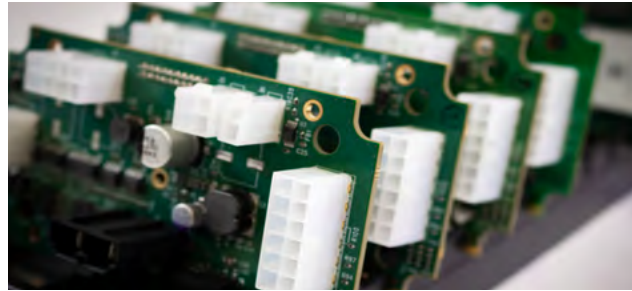


## CERTIFICATION SUPPORT

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We have the experience and expertise to determine the certification standards your product requires, and we design with that in mind. We ensure the design of the product meets certification standards and will guide you to prepare for, apply and obtain the necessary certifications and approvals. With years of experience and many success designs, we can help you integrate certification into your product design cycle no matter where you are in this process.

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- *Emissions Regulatory Certifications*
    - *ISED, FCC, EMC Directive*
  - *CE Marking Support*
    - *RoHS directive, WEEE regulation, Low Voltage directive, EMC Directive, etc.*
  - *Wireless Industry certifications*
    - *BT-SIG, PTCRB etc.*
  - *Cellular carrier certifications*
    - *Rogers, AT&T, Verizon, Bell, etc.*
  - *Safety Certifications*
    - *CSA, UL, NRTL, IECEx, etc.*



## MANUFACTURING SUPPORT

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We can help you leverage production in quantities to increase profit margins and make money! Now who doesn't want that? We will make sure that all industry standards are respected by fully supporting you throughout the process.

We integrate and implement a well-defined value engineering process resulting in reduced costs while at the same time maintaining, and even improving, the functionality of the end-product.

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- *Inventory control*
  - *Purchase and logistics*
  - *Manufacturing document control and versioning*
  - *Quality control*
  - *Custom automated programming and test fixture (ATF) solutions*
  - *Certification support (FCC, ISED Canada, EU CISPR, UL, CSA, IEC )*

WE COMMIT TO  
YOUR SUCCESS.

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## Contact Us

If you have a great idea and want to realize it into a functional, production-ready product, or if you are stuck anywhere in your design cycle process and need help, look no further, contact us today.

**GENERAL:**

info@neuronicworks.com

**BUSINESS:**

tbotos@neuronicworks.com

**TORONTO OFFICE:**

210 Lesmill Road  
North York, ON, Canada  
M3B 2T5

**KITCHENER-WATERLOO OFFICE:**

Catalyst137 Unit 465  
137 Glasgow St, Kitchener, ON  
N2G 4X8

**PHONE:**

Tel: 1-844-546-1575  
Tel: 1-416-546-1575  
Fax: 1-647-946-4218

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**It is impossible to put a dollar value on the ingenuity, dedication and focus that we see in our clients. These qualities are priceless. However, those who have been coded into NeuronicWorks Design are not. When working with NeuronicWorks, you have a rare experience to ask their help and end up with a deliverable of value for.”**

**-Shahram Salimi, Armstrong**



Our value on creativity,  
forward thinking, to me they  
are the attributes and more, are  
DNA. There is no escape from  
NeuronicWorks. It is a very  
team for something and not  
much more than you asked

**Fluid Technologies**



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

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