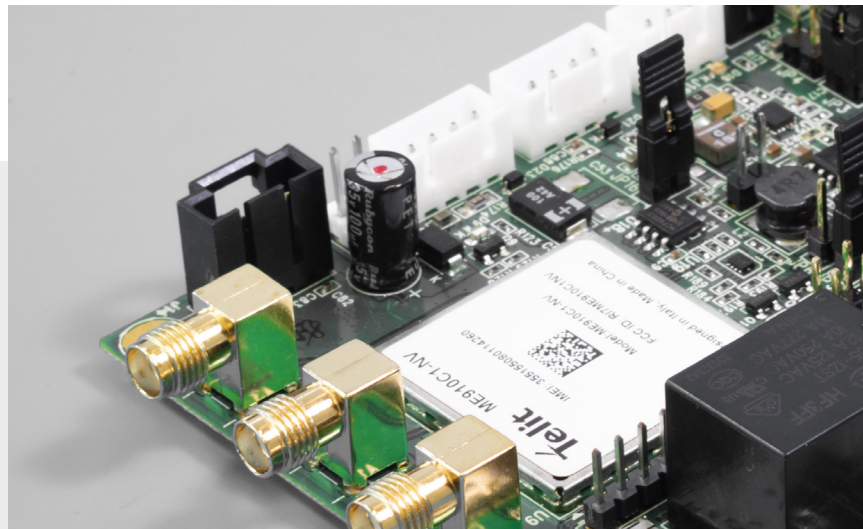
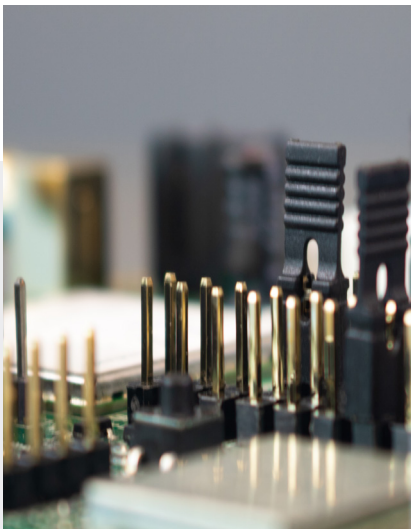


PRODUCT DEVELOPMENT AND MANUFACTURING HOUSE



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

NEURONICWORKS

NeuronicWorks is one of the top design engineering and manufacturing houses in the heart of Canada's leading tech community. We focus our efforts on helping companies realize their vision of a product concept with innovative design engineering and manufacturing solutions that reflect the reality and future of technological progress. 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 2009 in Toronto by 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 60 designers and engineers, with a wide range of expertise in futuristic technologies, innovative design, inventive product development and low volume manufacturing. We work on all phases of electronic product development, from initial concept design to manufacturing and certification.

**Our Design,
Your Success!**

FACTS & FIGURES

500+
YEARS OF COMBINED
EXPERIENCE

250+
SUCCESSFULLY COMPLETED
PROJECTS

60+
IN-HOUSE DESIGNERS

16
INDUSTRIES DISRUPTED



**Professional Engineers
Ontario**



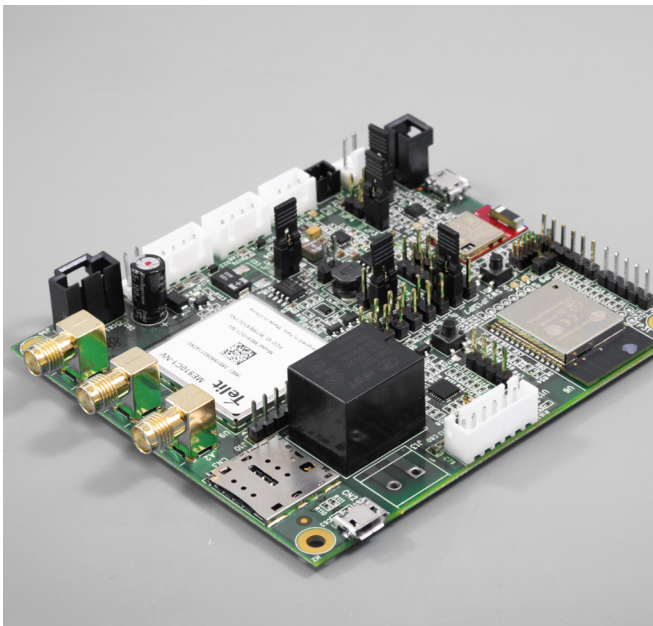
Registered to ISO 9001



WHY NEURONICWORKS?

NeuronicWorks provides turnkey, end-to-end, custom electronic product development and manufacturing services including electronic hardware design, FPGA design, firmware design, software application development, industrial design, mechanical design, system design, product test, product compliance support, prototyping, PCB assembly, box build assembly and support for high volume manufacturing.

Till date, we have delivered over 300 successful projects across industries like medical, automotive, industrial, agritech, cleantech, sporting tech, wearables, consumer electronics, industrial buildings, among others.



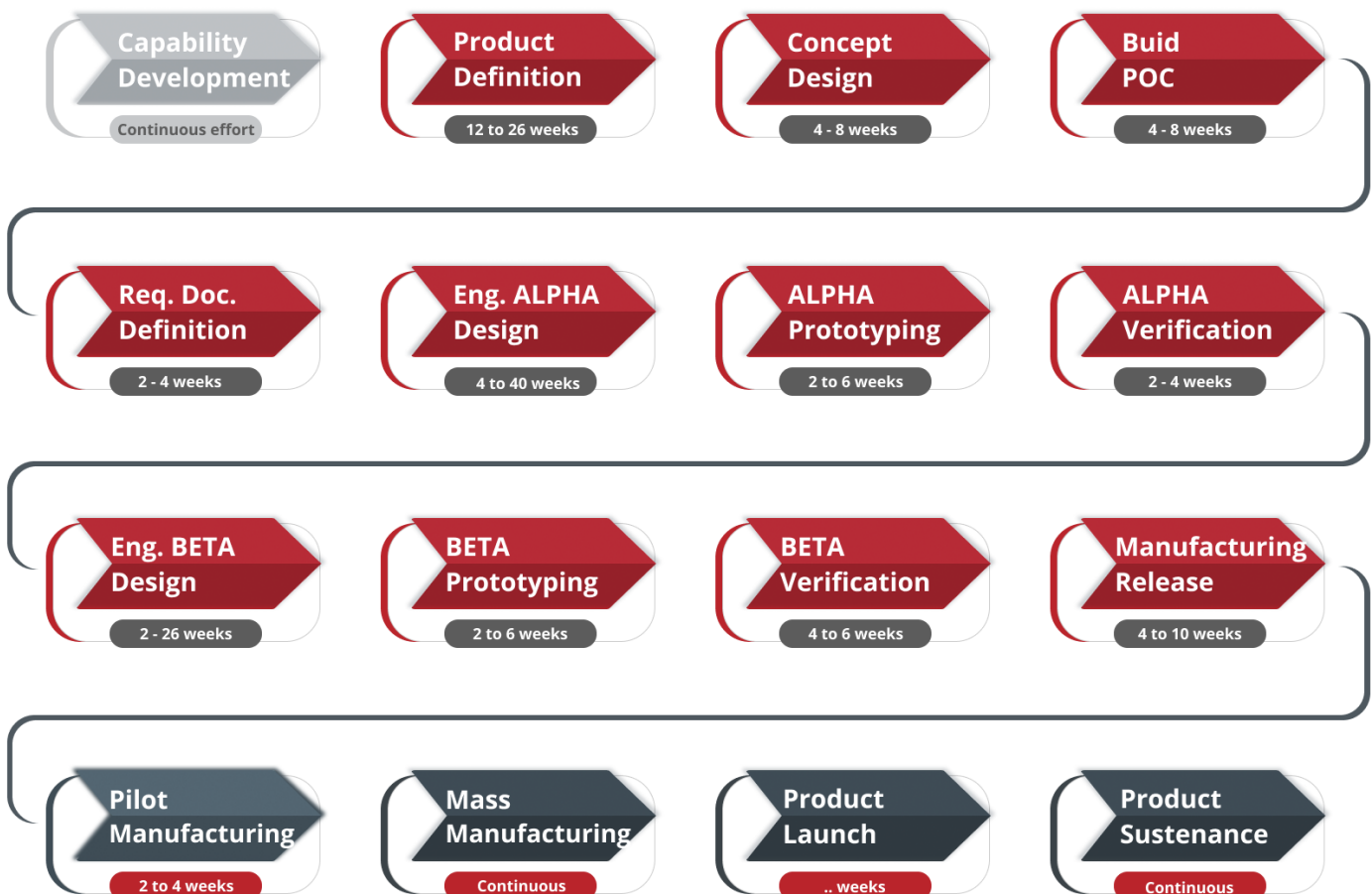
We have built strategic partnerships with renowned component manufacturers Analog Devices, Nordic Semiconductor, Microchip, Telit, STMicro, SiliconLabs, SiTime, Innophase, and Renesas. We are also partnered with major distributors like Arrow, Avnet, Digikey, Mouser Electronics and with accredited testing laboratories like Nemko, TUV and EMTS Lab.

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

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.

ISO 9001 : 2015 Certified



An aerial photograph of a city, likely Toronto, with a prominent red color overlay. The image shows a mix of urban buildings, green spaces, and water bodies. A dark grey rectangular box is positioned in the lower-left quadrant, containing white text.

DESIGN SERVICES

NeuronicWorks is a Toronto-based product development and manufacturing company providing end-to-end design services, from concept and mock-up prototypes to certified products ready for mass production. We work closely with our clients to collaboratively control the development process and we support our customers through all development phases and post-delivery.



HARDWARE DESIGN

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*

FIRMWARE DESIGN

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.

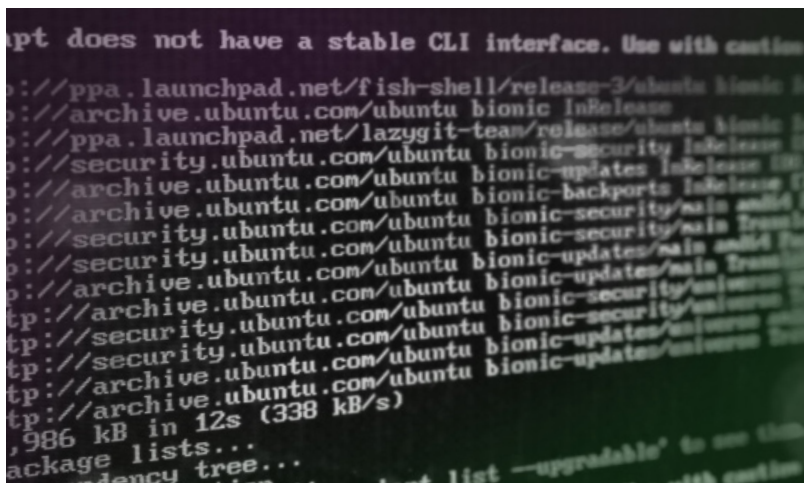
-
- *Embedded development: Bare metal, C/C++ on Embedded Linux, FreeRTOS, other real-time operating systems*
 - *Sensor and peripheral driver development*
 - *Developing board support packages*
 - *Cloud integration*
 - *Device security and secure communication, data encryption and authentication, certificate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

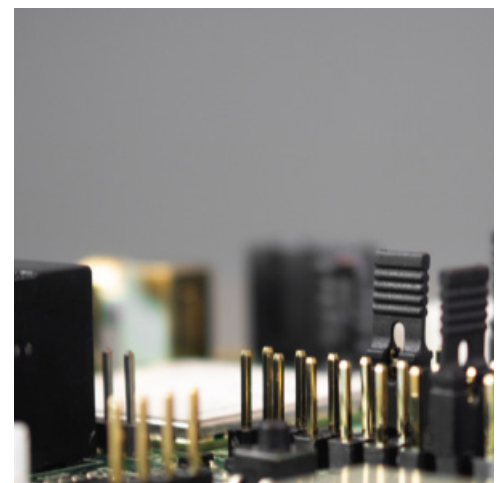
- *Design, development & maintenance of software for mobile, web and desktop applications*
- *Software & application porting across different operating systems & platforms*
- *Embedded applications such as GUIs, middleware, and protocol stacks*
- *Software optimization, feature enhancement & performance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



APPLICATION DEVELOPMENT

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.

-
- 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

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.

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





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.

- *Product/System Design*
- *CAD Modelling (Solidworks)*
- *FEA (Stress, Fatigue, Frequency, and Thermal Simulation)*
- *Design for Manufacturing/Assembly*
- *In House Testing Capabilities (ESS and Pre-Compliance)*

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*



PROTOTYPING

Nothing feels better than having your idea in hand. 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*
 - *Laser Cutting*



QUALIFICATION AND CERTIFICATION

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 success, we can help you integrate certification into your product lifecycle no matter where you are in the process.

-
- *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 SERVICES

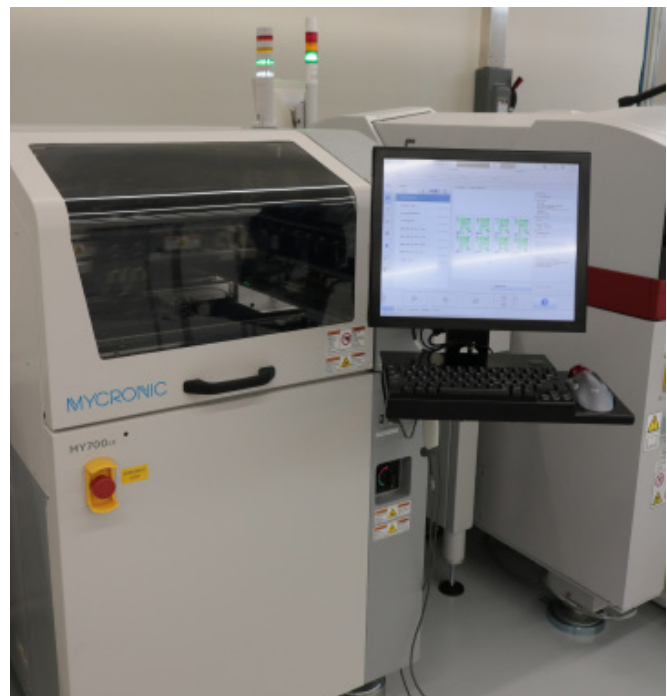
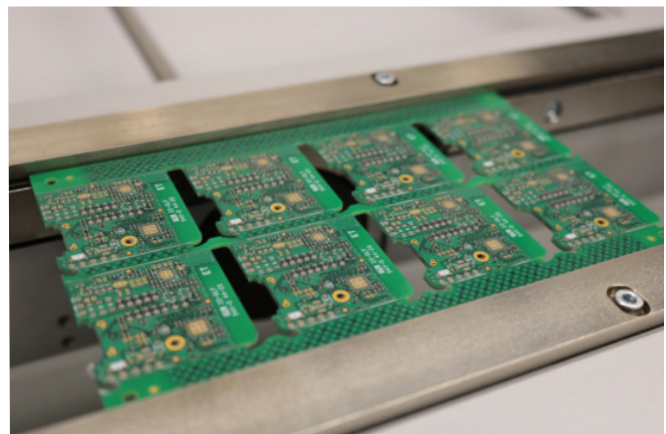
We offer turnkey manufacturing services that helps us to respond rapidly to customer requests for production. Drawing on the skills and expertise of professional, trained personnel, NeuronicWorks provides both simple and complex manufacturing solutions to industries like wearables, industrial control, agritech, cleantech, home automation and consumer electronics among others.

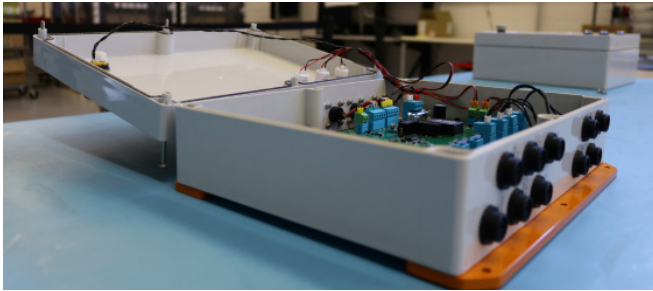
**Our Design,
Your Success!**

PCB ASSEMBLY AND SMT SERVICES

We offer turnkey PCB Assembly services for prototype and high mix, low to mid volume manufacturing. We manage turnkey, end-to-end requirements, from procuring bare printed circuit boards and parts through to PCB assembly and testing as required. We also work on consignment orders and in both cases, work closely with our customers to offer high quality services and ensure the fastest possible lead-times.

- *PCB Types: Rigid, Flexible, Stretchable*
- *Mixed Technology (SMT/Thru-hole)*
- *Lead-free (RoHS Compliant) assembly services*
- *Single or double-sided placement*
- *Format (length x width): 50 mm x 50 mm to 510 mm x 580 mm*
- *BGA, μ BGA, QFN, QFP, POP, 3D cavities, Lead frame, Pre-mounted, Pin-in-Paste, Broadband, Flat chips*
- *Components Range: 0.6 x 0.3 mm (0201) to 45 x 87.5 mm*
- *PCBA Turnaround time: 5 days*

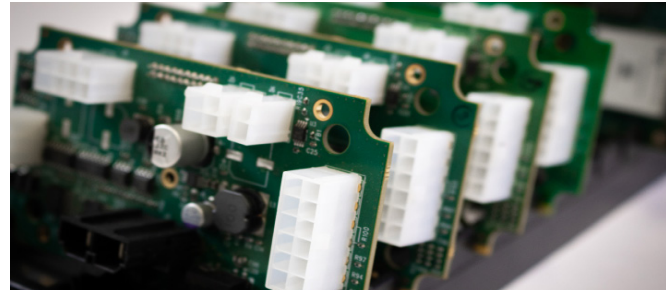




BOX BUILD ASSEMBLY

Our team offers full, cost-effective electrical and mechanical box build assembly services tailored to customer requirements with quick turnaround times. We ensure the box builds are carefully constructed to perfectly house the printed circuit board assemblies, user interfaces, the interconnecting cable and wire harness assemblies while meeting design specifications and applicable safety standards requirements.

-
- *Sub-level Product Assembly*
 - *System Level Assembly*
 - *Complete Product Testing (in-circuit, and functional testing)*
 - *Complete System Integration*
 - *Quality Control and Assurance*
 - *Inventory Management*
 - *Logistics, Packaging and Shipping*



HIGH VOLUME MANUFACTURING SUPPORT

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.

-
- *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)*

DESIGN FOR EXCELLENCE

Designing for Excellence (DFX or DfX) is a set of established practices and methodologies aimed to increase the product value by meeting its defined requirements simultaneously with optimizing the entire product development cycle. The product value can be regarded as the benefit perceived by the customer (functionality, usability, robustness, reliability, maintainability, etc.) relative to the total cost of ownership for that product.

DFX has a dual meaning: “X” stands for “eXcellence”, and it is also a placeholder for a specific characteristic or quality factor in the “Design for X” methodology: design for reliability (DFR), for assembly (DFA), for manufacturing (DFM), for testability (DFT), for maintainability and serviceability (DFS), for cost (DFC), for supply chain (DFSC), for regulatory compliance, for innovation, etc.

Addressing these X-dimensions coherently and systematically throughout the product development cycle enables tackling of technical risks at early stages, while progressively increasing the product quality and optimizing the cost as the design evolves from concept level to a final manufactured product.

DFX equates product value, through its entire life cycle. The DFX capability of a product development team is built through years of design and engineering experience, and by interdisciplinary expertise; nowadays DFX is perhaps the main differentiator when it comes to design quality and value.

“We do not inherit the earth from our ancestors; we borrow it from our children” is an old proverb that summarizes the need to adopt DFX principles that will result in green, clean, sustainable designs. At NeuronicWorks, our vision statement is “To design a sustainable, clean, and safe future!” and our mission statement is “To create great products that are human centric, functional, reliable, sustainable, energy efficient, and recyclable, while using minimal carbon footprint to produce and distribute.” We believe the future is in our hands and we have the power to design to make a positive impact.

We commit to your success.

Contact Us

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

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**If you are seeking to have
designed, built to your spec,
manufactured in the time
most cost-effective method
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www.neuronicworks.com

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