



# Capabilities Overview 2019



# *Custom Interface*

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## ***Interconnection Perfection™***



- Founded and incorporated by Nancy White in 1997 – we are a small business, HUB Zone certified, UL Listed, SAM and ITAR registered.
- Our Quality Management System is certified to ISO2001:2015 and AS9100D. AS9100 certified since 2014.
- New facility: 45,000 square foot state of the art manufacturing plant with approximately 90 employees that provide a stable and dedicated workforce from within the local community.
- With over 20 years of manufacturing experience, we provide a wide range of value added engineering, prototype, production and testing for custom electrical wire and cable harnesses, electromechanical assembly integration, and lead system integration for Group 2 and Group 3 UAS.
- 25% annual growth over the previous three years.
- Custom Interface grew up in Bingen, WA, 1 hour east of Portland, OR, in the midst of “Dronetown, USA” - North America’s center of excellence for UAS technology. UAS is in our DNA!
- Nestled in the Columbia River Gorge National Scenic Area, we are within minutes of world class kiteboarding, kayaking, hiking, cycling, fishing and skiing.

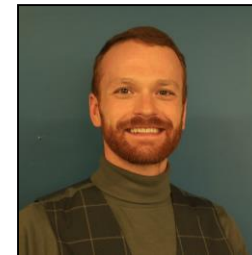


## Leadership Team

**Jeff Lemley**  
Business Development  
14 Years in Aerospace  
Sales and Product  
Development



  
**Nancy White**  
CEO  
35 Years in  
Electrical Harness  
Manufacturing



**David White**  
COO  
9 Years in  
Electrical Harness  
Manufacturing

**Emily Aman**  
Human Resources  
10 Years in  
Aerospace  
Recruitment



**Cindy Lamar**  
Controller  
Over 30 Years in  
Finance





## CII Facility – New in 2013





# Custom Interface

Serving World Class Clients

SAFRAN



PLANAR



INSITU



AEROJET  
ROCKETDYNE

Korry

AEROVEL

PAEISR

Audio  
precision



SPACEX



Northwest UAV  
A GLOBAL COMPANY



SERVERON  
A QUALITROL Company



Esterline

## Certifications



- **ISO9001:2015:** International standard that encompasses best practices & fundamentals of quality management systems (ISO9001 compliant since 2000)
- **AS9100D:** A quality system developed by the aerospace industry containing standards for best practices in manufacturing and designing aerospace equipment. (AS9100 compliant since 2009)
- **ITAR Registered:** International Traffic in Arms Regulations
- **UL/CSA Registered:** Underwriters Laboratories Inc. / Canadian Standards Association
- **IPC-A-620:** A quality standard developed to identify best practices and quality for the cable manufacturing industry
- **RoHS Compliant:** RoHS and lead-free manufacturing options available
- **AUVSI Member:** Association for Unmanned Vehicle Systems International
- **SAM Verified Vendor:** US Federal Contractor Registration – System for Award Management
- **DoD Mentor-Protégé Program:** FLIR Systems Inc.



## Aerospace & Defense

SUPERIOR HARNESSES &  
SYSTEM INTEGRATION  
for mission critical use in  
both civilian & military  
applications



Over 1 Million UAS flight hours  
without field failure!

Custom Interface's years of experience in helping our customers overcome wiring issues for sensitive cutting-edge technology in some of the world's harshest environments have taught us the best ways to make robust harnesses that will outlast the competition.

If failure is not an option, then have your electrical wire and cable harnesses and system integration done at Custom Interface.





## Industrial & Commercial



Custom Interface builds electrical wire and cable harness assemblies for a variety of other industries with diverse applications, including automotive accessories, renewable energy & power management, industrial testing, LED displays, and broadcast media.



Custom Interface has been making wire and cable harness assemblies since we opened in 1997. Our experienced harness assemblers go through intensive IPC wire and cable manufacturing training before being moved to the production floor, where they continue to hone their skills under the leadership of our seasoned veterans.



## Wire & Cable Harnesses



Our cables can be found in an assortment of diverse applications and environments, including naval vessels, transformer monitoring gear, unmanned aerial systems, solar panel arrays, rock concerts, commercial and private airplanes, lab equipment, off-road vehicles, and even the Winter Olympics. We routinely work with high-end connectors such as Lemo, Glenair, ODU, Positronic, Samtec, Hirose, and Nicomatic. As well as mil-spec connectors such as the D38999 and DTL-5015 series.



## The Evolution of a Wire Harness



At Custom Interface, we don't sell wire and cable. We sell custom electrical wire and cable harnesses. CII buys raw wire or cable, such as the multi-conductor jacketed cable shown above, and takes it on a journey toward becoming a harness. Along the way, we will be peeling back the jacket, stripping the insulation off of the conductors to crimp on the contact terminations, and housing the terminated ends into a connector such as the D38999 shown here.

Many harness assemblies also require braided shielding to help mitigate EMF outputs. Potting, overmolding, heat shrink or other sleeving is often added to meet strain relief and protection needs from abrasion, heat and other environmental factors, such as ingress protection up to IP68. The result is a high-quality robust harness built to meet your needs that won't fail in the field.

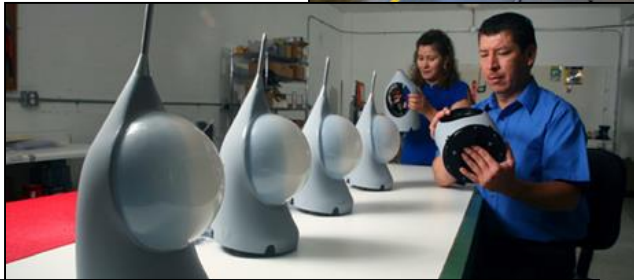






## UAS Lead System Integrator

Custom Interface has grown up arm-in-arm with other leading UAS system manufacturers. Our proximity to top tier ISR programs has helped us develop processes that compliment those OEMs.



Custom Interface excels at installing our harnesses, as well as electronic componentry, into composite structures, such as Group 2 and Group 3 UAS airframes. We work closely with our customers to improve harness routing and product longevity, while simultaneously enhancing performance and reducing weight.

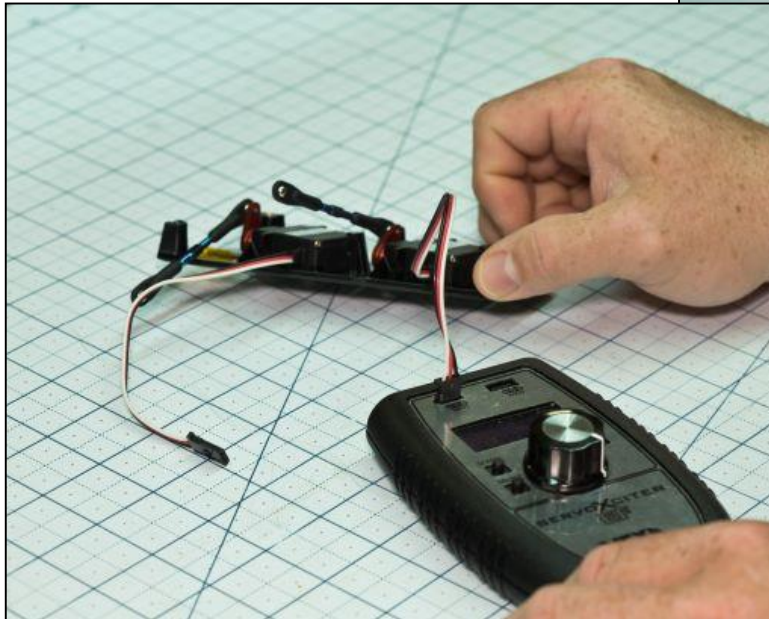
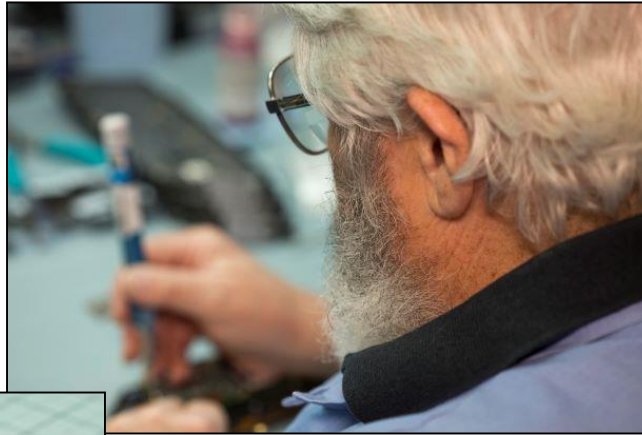
Full functional testing of the final system assembly to customer specifications ensures your product will work just as expected right out of the box.





## Electrical Testing & Calibration

As an adjunct to our UAS wire harness integration services, Custom Interface also specializes in installation of off-the-shelf (OTS) electronics, communications packages, custom printed circuit boards, and electromechanical components such as servos and payload deployment hardware.



For OTS electronics and communications systems, Custom Interface installs and tests components and assemblies for proper function per manufacturer and customer specifications. CII also installs printed circuit boards into greater assemblies, loads firmware onto PCB microcontrollers, and tests for proper functionality upon completion. Servo installation and calibration, including calibration data for the end user, is another CII service that we perform regularly for UAS customers.



## Fuel Delivery Systems

Assembly and testing of Fuel Delivery Systems is another area in which Custom Interface has supported the UAS industry for several years.

CII's experience in Fuel Systems covers Fuel Pumps, Fuel Tanks, Fuel Header Tanks, and High Speed Fueling Systems. Assembly of these systems has familiarized us with various fueling connectors, such as Battlefield, as well as proper routing of fuel lines and placement of couplers. CII repairs fuel tanks, using solutions such as custom fuel bladders to secure the fuel cells.

Testing and inspection of these systems includes electrical testing, pressure testing for leaks, and carbon inspection for defects.





## Carbon Components & Enclosures

Custom Interface has over 10 years of experience in working with carbon fiber components and enclosures. CII's carbon technicians are skilled at identifying and either repairing carbon parts, or working with our many carbon vendors to ensure we get high quality parts that meet our customers' needs.

Our processes include carbon inspection and repair, paint vendor management, paint inspection and repair, integration of electronic and electromechanical subassemblies into carbon enclosures, and finally automated photo documentation of the finished product's condition.







## Value Added Engineering

Our clientele come to Custom Interface seeking Interconnection Perfection™. Our skilled labor pool of seasoned wire harness and system integration assemblers help to make that a reality for our customers.



Our extensive review of customer designs evaluates not only manufacturability, but we add value by recommending cost saving and quality improving options. OEM's often seek out CII to help them reduce cost over the long term, shed weight in applications where every gram counts, elevate lifespan, and better ease of connection for the operator in the field.





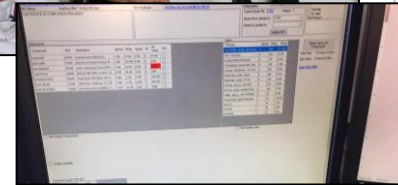
## Quality Management System

CII's management is committed to providing the resources to sustain a quality management system that provides the framework for how we meet customer needs and specifications, and promote improvement and innovation of our business. The management team recognizes that needs and opportunities for change require the quality management system to evolve and that changes must be made in a systematic way that identifies opportunities and mitigates risks.

Our certified ISO9001:2015/AS9100D quality system requires that a First Article is built for design validation and customer approval prior to any production release. We review drawing specs to verify manufacturability and compliance with IPC 620 and customer standards.

A complete process control documentation package is developed to ensure subsequent shipments will be identical to the approved first article. Production kits include customer drawings, specifications, assembly instructions with embedded IPC standards and photographs to ensure consistency. All tools are maintained and calibrated per IPC 620 and manufacturer standards.

Our Material Resource Planning software provides full transparency into each product build, including traceability of all materials, serialization records, purchasing records, and work order records documenting the manufacture of each assembly.



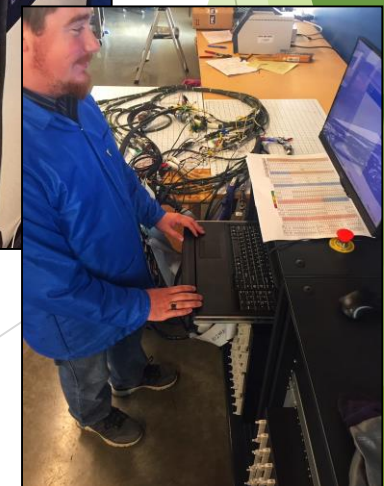


## Quality Control

Custom Interface has ZERO tolerance for failure. We target 100% Quality on customer product, and currently boasts a quality rate of over 99.4%. We are experienced with testing to NASA, Boeing, Airbus, FAA, ASME, and IPC 620 standards.

Our testing capabilities include:

- Microscopic visual inspection (40X optics)
- Basic Continuity & Isolation testing
- HiPot testing up to 1500VDC/1000VAC
- Pull Force testing from 1 to 750 lbs
- Servo Exciter testing
- Resistance testing down to 50 milliohms
- Automated testing up to 3,394 termination points
- RF Cable VSWR and Insertion Loss testing up to 3000 MHz.
- Customer-specified full system tests
- Full comprehensive test reports for your records

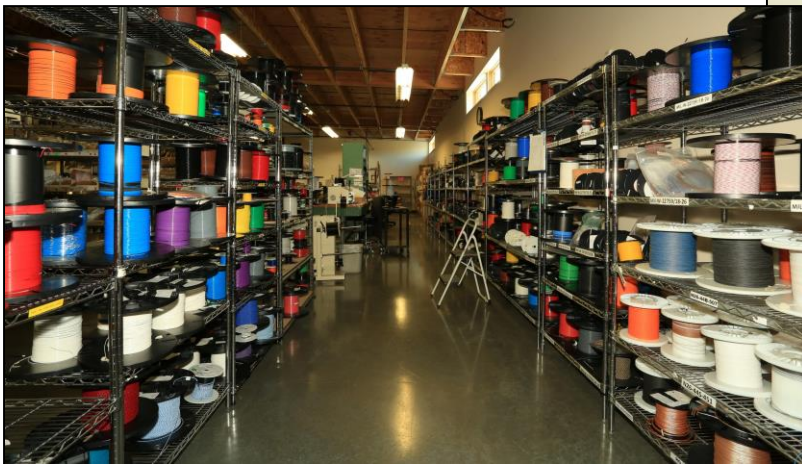




## Supply Chain & Cost Management

Let us manage your vendors and deliver your product to you or your end customer ready to plug and play.

Custom Interface specializes in Turnkey Manufacturing programs that will help reduce cost and lead times, as well as customer headaches, over the life cycle of your product.



We leverage our robust supply chain management processes and longtime vendor partnerships to ensure we maintain a thriving and cost effective materials pipeline.

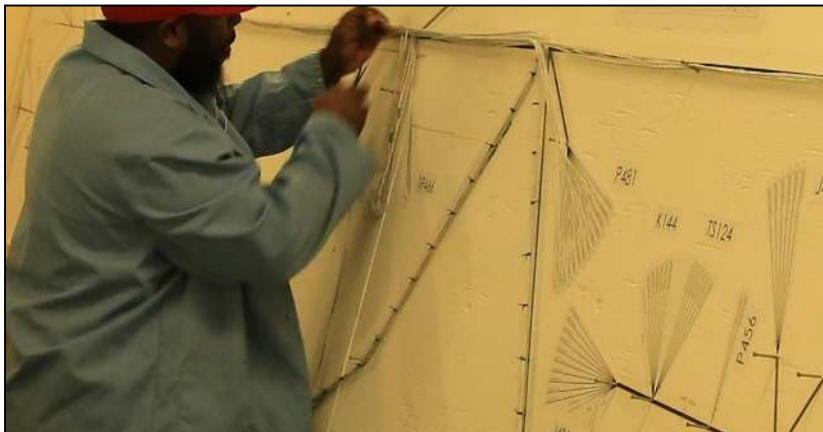
Custom Interface can also work with you to customize a stocking package or raw materials safety stock program to help mitigate lead time risks.





## Capacity is King

Custom Interface maintains available capacity of physical plant space as well as both human and tooling resources. This allows us to quickly surge to meet increasing demands from existing or new clientele, without the detriment of prolonged ramp up periods. Flexible and agile response is a must have in today's rapidly evolving aerospace environment.



We choose to form business partnerships with clients who will settle for nothing less than perfection, allowing us to select the opportunities that will yield the best results for both parties, and doesn't burden our organization with less than optimal business relationships. This ethos facilitates our ability to maintain available capacity for our key partner customers.





## Client Services

Custom Interface offers a multitude of fulfillment solutions that can be customized to meet customer needs, including turnkey product manufacturing, supply chain management, long-term blanket purchase orders, and safety stock programs, amongst others.

Each of our valued customers are assigned a dedicated Client Services Specialist who will work to ensure proper program flow, as well as manage purchase orders and customer communications. These specialists excel in configuration management and revision control, as well as coordinating delivery of supplier recommendations for product improvement to customer engineering teams. This is critical in helping us attain 98%+ on time delivery of the high-quality product you need.





## Customer Retention

Custom Interface has a diverse and loyal customer base. 3 of our top 5 customers have been with CII for over 15 years. Our customers come back to us year after year because we help make their companies better. Our Zero Tolerance for quality escapes, our flexibility to accommodate ever changing schedules, our ability to surge and be agile in the face of sudden increases in demand, and our ongoing efforts to foster a partnership based on transparency and honesty make Custom Interface an attractive option for a long-term business relationship.



Our customers appreciate our efforts to continue to grow with them and with the aerospace industry as a whole. We have flourished at the heart of UAS development, and we remain heavily involved in helping to shape the industry and consult with the key decision makers as technology evolves.



## People Power

Our company is comprised of a talented group of approximately 90 employees with many years of experience in assembly, manufacturing and management from having worked at other tech companies like Intel, Boeing, HP, Insitu, Sagetech, Triumph Group, Cloud Cap Technology and Zodiac.

Our documented training program is tied to IPC 620 standards, utilizing both hands-on workmanship training and classroom instruction to continuously improve and expand our capabilities.



We are an equal opportunity employer and offer compensation and benefits, as well as an amazing place to live and raise a family, that attract and retain a strong workforce. Many of our employees have been with us for over 10 years.





## Why customers choose CII?

- Small Business in a HUBZone
- Financially stable and long term provider of wire harnesses and system integration with proven track record
- Agile and flexible with ability to surge and available capacity for your needs
- 99.4%+ Customer Reported Quality
- ISO9001:2015/AS9100D
- Provide design assistance and CAD/drawing support
- Prototyping capabilities and value added engineering design recommendations
- Documented processes and work instructions
- We exceed customer expectations

*"We have always found CII to be a pleasure to work with. They pretty much do it all – Quick prototype turns, cost effective production runs, innovative design suggestions that work, and always attention to detail." – **Bill Bunnell**, calibration lab quality manager*

*"CII is a great cable manufacturer. They are always very responsive to my urgent needs. They are especially proficient at providing guidance with cable designs to insure quality and reliability at the least possible cost." – **Ben Fritchie**, senior design engineer*





***“Harness Our Experience”***

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