



NEXEYA
A Hensoldt Company.

**BULK WIRE
TEST SOLUTIONS**

Nexeya designs, manufactures and supports products and services used in the design, development, validation and verification of sub-assemblies, assemblies and complete systems. We cater to a variety of industries, with a focus on space, aviation, transportation and high-tech manufacturing. Our embedded and stand-alone solutions are designed for capital intense and mission critical environments and are deployed across the globe and into space.

Our strength lies in our ability to collaborate in combining leading edge technologies and best practices to create highly effective and reliable engineered solutions. Our customers choose Nexeya for our flexible and easy to use products and our dedication to outstanding customer support.



More than 30 years
working with our customers
to *reach new heights*.

Detect and Protect

HENSOLDT is a global high-tech pioneer in the sector of defence and security electronics and a market leader in civilian and military sector solutions. In addition, HENSOLDT is developing new products for data management, robotics and cybersecurity by combining existing skills through software solutions.

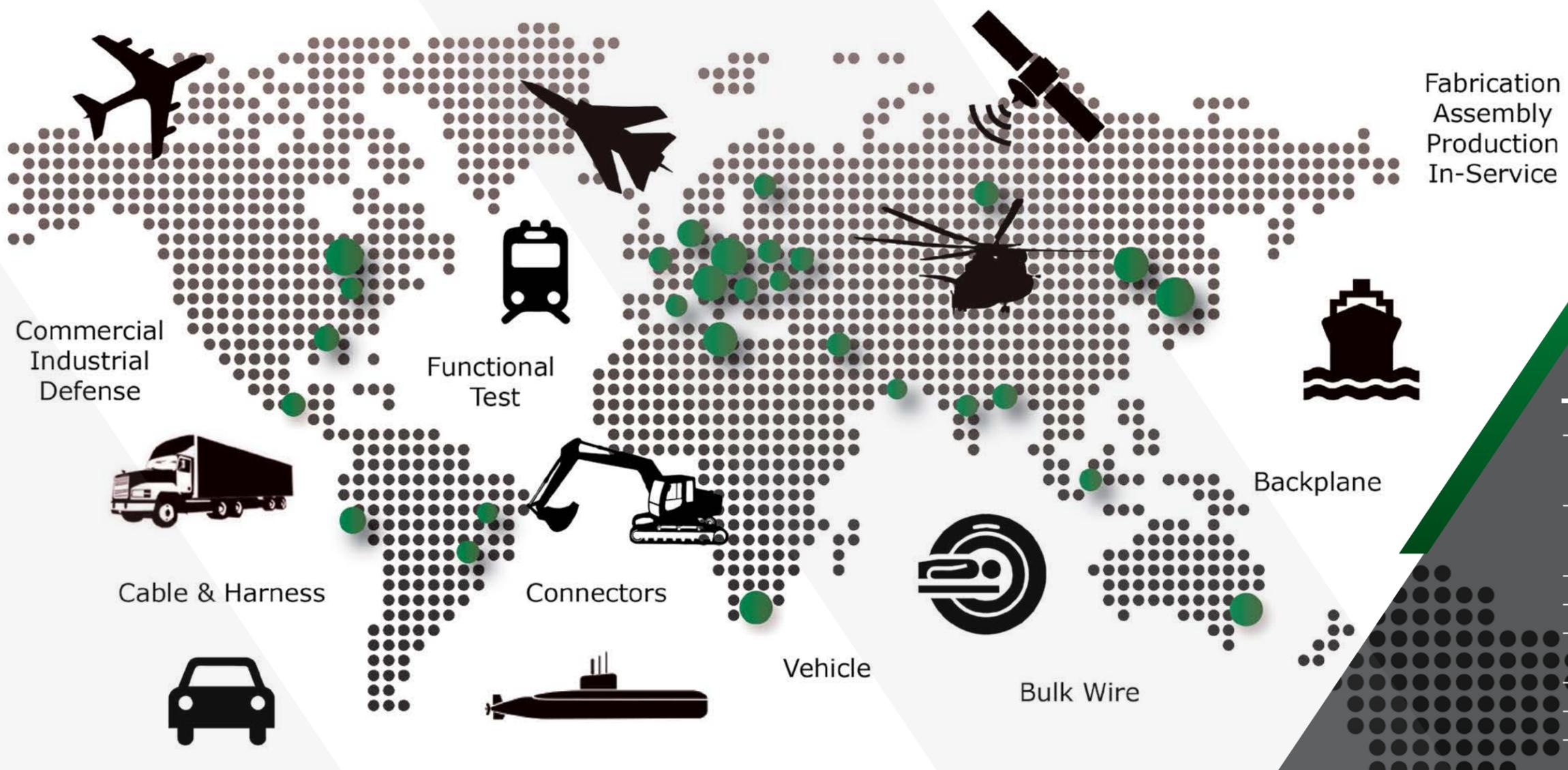
OUR MISSION

We strive to help our customers optimize their operations and save time and money by delivering engineered solutions that are cost effective, flexible and easy to use.

OUR VISION

- Designing effective, reliable and powerful products and solutions
- Creating intuitive software that naturally fits the operator's environment
- Providing customers with prompt responses and customized solutions





THE NEXEYA
DIFFERENCE

- Modular solutions that can be configured to meet current needs and 'built up' over time to address future customer requirements
- Open architecture enables interaction with a variety of third party products and current installations
- Proven and competitively priced solutions
- Local resources, global reach
- Complete command of the product development process
- Regulatory agency approved
- Ease of use and flexibility
- Dedication to outstanding customer service

NEXEYA
SERVICES

PRODUCT DEVELOPMENT

Commercial & modified off the shelf offerings, fully designed, engineered manufactured turn key products & systems, test program development.

UPGRADE SERVICES

Asset management to ensure systems are up to date, optimized and delivering the latest capabilities, re-engineering support services, obsolescence management.

SPARES SUPPORT

Standard spare packages, fully customized spares support offering for specific applications.

TECHNICAL SUPPORT

Live phone & video support, standard & customized training sessions, one on one applications support.

GLOBAL MAINTENANCE

On site assistance, corporate wide asset management services, global frame agreements, "Front of the Line" support contracts.

SOLUTIONS AND SERVICES

3 LEVELS OF INTERCONNECT TESTING



MANUFACTURING VERIFICATION

PERFORMANCE VALIDATION

MAINTENANCE/TROUBLESHOOTING



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A LOOK AT NEXEYA'S

SOLUTIONS IN ACTION



COMMERCIAL & MILITARY AVIATION

From aviation OEMs through the entire supply chain NEXEYA delivers test equipment, validation and verification solutions and embedded hardware to virtually every make and model.



RAIL & ROLLING STOCK

NEXEYA is an industry leader in Rail for delivering test solutions that optimize the manufacturing process and push the capabilities of verification and validation.



EZX SERIES

Based on over 20 years of success, EZX series is the latest in our benchtop analyzers and is NEXEYA's response to customers seeking economical yet powerful and expandable solution for their cable and wire harness test requirements.



CTX SERIES

Economical yet powerful and expandable solution for cable and wire harness test requirements, NEXEYA offers the CTX series. With industry leading accuracy, high voltage and energization capabilities required in production assembly lines to validate complex cable and wire harnesses for aircrafts, ships and trains.



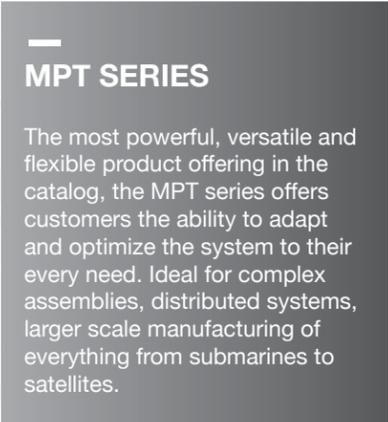
SATELLITES

NEXEYA offers a variety of satellite solutions. From large satellite structures, to wiring harnesses and power distribution systems, active and passive thermal controls and full small sat design and build projects.



MANUFACTURING

NEXEYA offers a variety of test equipment solutions for all types of manufacturing environments, support all stages of the manufacturing process.



MPT SERIES

The most powerful, versatile and flexible product offering in the catalog, the MPT series offers customers the ability to adapt and optimize the system to their every need. Ideal for complex assemblies, distributed systems, larger scale manufacturing of everything from submarines to satellites.



WIDD

When faced with permanent or intermittent wiring defects, WIDD is ideal to identifying and locating electrical faults. Designed for troubleshooting and service tasks, WIDD addresses unplanned maintenance, increases asset availability and lost revenue by keeping downtime to a minimum.



NAVAL VESSELS

From test equipment, imbedded power distribution systems to command and control / mission management solutions to civilian ship protection systems, NEXEYA sails with the world's navies and commercial vessels.



HEAVY VEHICLES

NEXEYA supports the manufacturing, production, assembly and servicing of the power distribution and interconnect systems of everything from heavy industrial equipment to road transport to military land vehicles.



AUTOMOTIVE

With the dawn of electrical vehicles, NEXEYA's automotive electrical test solutions are expanding to further support the entire lifecycle of personal and commercial transportation.



MEDICAL

From pacemakers to MRI systems, NEXEYA's test solutions are testing a variety of life saving technologies.



BULK WIRE

Combining over 30 years of hardware and software evolutions of our MPT series with our expertise in developing proprietary, application specific high voltage power supplies, Nexeya designs and delivers bulk wire test systems configured to meet your needs.

BULK WIRE ANALYZERS



The world continues to grow more and more with respect to connectivity. As human to human digital interactions, human to machine interfaces and machine to machine data transfers multiply at exponential rates so do the requirements for reliable connectivity.

Belden (Cable & Wire) is a leader in this market and with the advances in technologies and development of more and more restrictive specifications they required a new test solution. A solution that would verify and validate their products as well as support their manufacturing processes; Nexeya delivered.

The new test requirement presented many challenges including; the safe and cost effective switching of larger voltages (greater than 5000VDC) and the high power requirements (to energize high capacitive loads (x gage, x feet)) was a critical requirement of the test system.

Nexeya delivered a safe and efficient system by integrating current commercial (Nexeya) products with several custom design (by Nexeya) components that resulted in a complete turnkey system fully supported by Nexeya's engineers and technical support network. The right mix of off-the-shelf and customized components



ensured a reliable, serviceable, cost effective solution.

Bulk Wire Analyzers use a proprietary high voltage switching architecture to evaluate and test reels of bundled twisted-pair cable up to 30,000 feet in length for conductor resistance, insulation resistance, conductor to conductor dielectric strength up to 10 kVDC and core to sheath dielectric strength up to 15 kVDC. AC High Voltage testing is available (as a standard offering) up to 6000VAC for 30,000 foot cables.

KEY FEATURES INCLUDE:

- Mass HiPot Algorithm
- High Voltage Discharge
- Customized fan-out fixtures
- Tare & Temperature Compensation
- EPO and Safety Interlocks
- Easy to use menu driven software



INDUSTRY CHALLENGES



Bulk wire manufacturers

face a number of challenges

that have been **overcome with a Nexeya based solution.**

THE CHALLENGE

Long spools of wire, in excess of 30,000 feet, combined with the gauge of the wire, creates challenges with the power required to properly test the wire for defects.

THE NEXEYA SOLUTION

Nexeya's custom designed and manufactured power supplies are designed from the ground up, specific for the particular application, ensuring plenty of power on hand for the product validation and verification.

THE CHALLENGE

Custom requirements such as test dry and wet cables.

THE NEXEYA SOLUTION

Nexeya's fixturing is designed to enable the testing of cables where the end use is under water.

THE CHALLENGE

Long setup times and labour-intense wire preparation.

THE NEXEYA SOLUTION

Nexeya's fan out fixtures eliminate the need to prepare and strip individual wires for testing. Operators can set up a Nexeya fixture in less than half the time.

THE CHALLENGE

Defects on a long wire means the cables must be cut to length to eliminate any defects, locating the defect and knowing where to cut is always a concern.

THE NEXEYA SOLUTION

Nexeya's test software pinpoints defects enabling operators to quickly locate a fault and optimize wire lengths. Shorter repair times and longer wires means less cost and more valuable wires.

THE CHALLENGE

Long cables with up to 150 individual wires require long test cycles.

THE NEXEYA SOLUTION

Nexeya's Mass Hi-Pot™ algorithm enables 'bundled' testing which greatly reduces the overall test time.

Average time savings: 50%

BULK WIRE ANALYZERS



GENERAL CHALLENGES

High Power Requirements for long, varying gauged wires.

Nexeya delivers application based power supplies up to 15 KVDC and 6000 VAC.

Long and cumbersome set up times. Nexeya's 'stripless' fan out fixture reduces step time by 50%.

Cable faults impact wire lengths. Nexeya's 'fault location' enables operators to optimize cable lengths thus maintaining product value.

Cable configurations. Regardless of the configuration (single or multiple insulated, varying gauges, twisted pair, quads with drain) Nexeya's test software enables fast program loading to reduce test set up and test time while validating and verifying to the specification.

Easy to use test software. The Nexeya Studio Platform has a variety of user friendly features including menu driven operator interfaces, user customization, quick test and set up, auto loading of saved programs.

Nexeya's bulk wire test offering can be integrated with bar code scanners (for data collection, test loading), printers, auxiliary safety equipment and more.

SAFETY FIRST

Complimenting all the standard safety features Nexeya's systems can also be integrated with specific safety equipment or functions.

Safety enclosures, light curtains and other hardware can be integrated to work with the Nexeya test platform.

In addition to physical safety features Nexeya's control system deploys a high speed discharge system which dispates power in a controlled, monitored and safe manner.

APPLICATIONS

- Large Diameter
- Multiple Wires (up to 150 wire fan out fixture)
- Long Lengths (30,000 feet)
- Multiple Configurations
- Single or multi-strand

INDUSTRIES

- Power
- Telecommunications
- Oil & Gas
- Medical
- Industrial

FEATURES

- Open & Short detection
- Fault location
- Pair to pair, pair to ground tests
- Mass Hi-Pot™ - test in groups to reduce test time while ensuring complete verification and validation
- Group continuity scans
- Low voltage validation (to 15 KVDC)
- High voltage validation (to 6000 VAC)
- Resistance Testing
- Capacitance Testing
- Dielectric Testing Pair to Pair
- Dielectric Insulation Resistance Testing Core to Sheath
- Parametric Testing

Proven turn-key solutions that

merge standard, over the shelf components, with customized hardware and software features and functions resulting in *best value* for the dollar.

CASE STUDY

AVIATION APPLICATION CAN BE DEPLOYED IN BULK WIRE SERVICING ENVIRONMENT



THE CHALLENGE

With the constant addition of new technologies, features and functions today's aircraft are becoming more and more complex. Many of these complexities are in the electronics resulting in kilometres of wiring, cables and harnesses, hundreds of bends and thousands of connections.

Nexeya offers a variety of test, validation and verification solutions when cables and harnesses are being manufactured and installed. But, what happens when an aircraft completed is, when all is 'buttoned up', panels in place, seats adjusted? What happens when you have a fault and the cable or harness or connector is hidden behind a structure, in a conduit, running through a bulkhead?

How can you effectively and efficiently test installed systems? How can you make the repair without removing everything installed in front of the electrical system?

Nexeya came up with a solution.

THE NEXEYA SOLUTION

In 2016 Nexeya introduced their latest electrical wiring interconnect system test tool: WIDD (Wiring Intermittent Defect Detection). The WIDD is ideal for identifying electrical faults and pinpointing their location, enabling technicians to make repairs in a timely manner without having to dismantle and replace more access panels than necessary.

In addition to finding permanent and intermittent faults, the WIDD solution enables operators to collect the data required for life cycle material management of their assets electrical systems.

By characterizing the electrical system at set intervals*, operators can utilize analytics to determine how an electrical system is aging and thus the optimal time to initiate repairs.

The WIDD product is extremely effective in both shortening the repair cycle of electrical faults in aircraft and enabling life cycle material management. Airbus partnered with Nexeya to develop a full (reactive & proactive) electrical maintenance program for the A320, A350 and A380 aircraft.

Dubbed the "SWITS" by Airbus, Smart Wiring Troubleshooting, it takes advantage of the WIDD's reflectometry and LCR measurement (impedance, capacitance and resistance) technology to detect faults in a record time. Matching the WIDD's information to their maintenance procedures and pre configured data packages, the client and their customers around the world can now rectify AOG (Aircraft on Ground) issues in record time.

*The cycle matches predefined maintenance cycles.

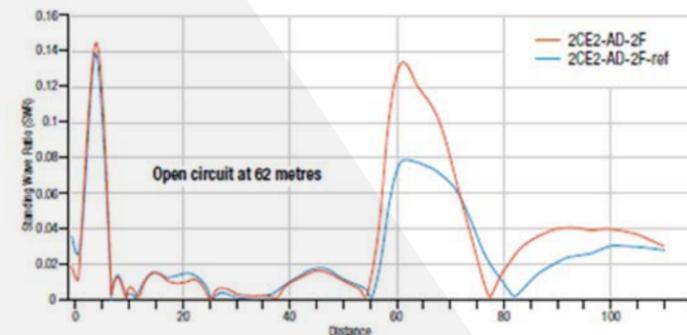
Why did the aerospace company select Nexeya and WIDD?

PERMANENT AND INTERMITTENT FAULTS

Permanent or intermittent fault occurrences can take place anywhere in the electrical system. These issues can take a considerable amount of time to locate and repair. In addition, in many cases intermittent electrical faults, which occur in flight, can be nearly impossible to replicate on the ground, resulting in countless hours of trial and error. The SWITS program addresses this issue.

ONGOING MAINTENANCE AND REPAIRS

Transportation assets are constantly undergoing some type of preventive maintenance as part of the checks and balances that keep the equipment and its passengers safe during normal operations.



THE WIDD IS AN ALL-IN-ONE TOOL THAT OFFERS THE ABILITY TO:

- Detect and locate an electrical fault
- Reduce or eliminate the introduction of future electrical faults during normal maintenance operations
- Capacity to chart the life cycle of the electrical system over time to ensure optimal life cycle asset management

The WIDD solution is capable of checking 62 channels sequentially, which enables incredibly fast fault analysis (2 msec. for a 1024 points harness of 100 meters). This empowers maintenance personnel to go directly to the problem (defect

In executing these operations there can be considerable 're & re' that takes place; the removal and replacement of 'other' assemblies that need to be removed and replaced to execute the service cycle.

These operations can induce an error or fault if everything is not returned back to its original configuration. An advantage of the WIDD product is that an operator can characterize an area of the electrical system before any maintenance is undertaken. They can perform the maintenance and then take a second characterization. Any change in those two 'takes' and the system will identify where a potential error or fault has been introduced.

located to +/- 50 cm), reducing the time and expertise needed to troubleshoot and pinpoint a defect such as:

- Short circuit
- Open circuit
- Bonding
- Grounding
- Intermittent

The WIDD solution is ideal for any electrical application including; satellites, aircraft, trains, naval vessels, ground vehicles; anything with an electrical interconnect wiring system where faults have to be discovered and repaired in record time to keep vehicles in service satisfying customers and generating revenue.





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