Product catalogue

Electromagnetism
is our thing

Emissions
Radio Frequency
Immunity EMC

Test and Measurement
Products

NEXIO

*Meeting all your electromagnetic testing requirements*
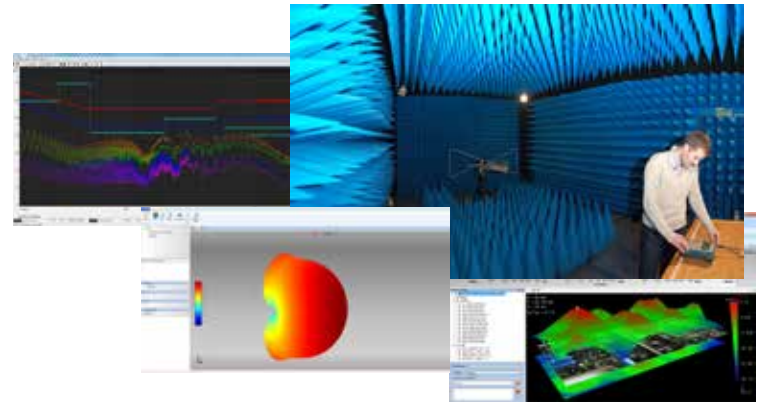
## Save time

**All in one software**
EMS, EMI, Reverb, Transients, Surge, Burst, Near Field Scan, Monitoring, Radiation pattern...

## Be efficient

**For all major market sectors**
IEC/EN, FCC, ISO, RTCA/DO160, MIL-STD, ETSI, Automotive...

## Save money

**100% hardware compatibility**
1 software for all instruments, and more than 500 free drivers

*NEXIO offers complete software solutions for laboratories and design teams to perform EMC testing and RF testing at all stages of the product lifecycle.*

*From validation of prototype designs to final qualifications, NEXIO software can do it all. It is designed to work with all brands and types of test equipment, no matter how old or new. Other distinct advantages are test planning, resource management, data management, and creation of custom reports.*

BAT-SCANNER BAT-SCAN
BAT-EMC EASY-MONITORING
MAINTENANCE
BAT-ELEC BAT-RF
BAT-MANAGER BAT-CLICK

Distributed by: Reliant EMC LLC, Tel. +408-320-9644/+408-916-5750, www.reliantemc.com

**Founded** in 2003, NEXIO offers the market's widest range of electromagnetic automation test software through a global network of support staff and sales representatives. NEXIO develops the software range called BAT, which stands for "Benchtop Automated Testing". BAT is a package of high-performance automation test software for a variety of electromagnetic compliance and RF testing requirements for all industries.

NEXIO's customers are among the top companies in the world in every major market sector ranging from aerospace & defense, aviation, automotive, multimedia, information technology, medical, home appliances, and so on.  We are also the software of choice for some of the world's top accredited labs. Today, the company employs around 70 sales, development, and support personnel worldwide.

NEXIO's software success is based on the combination of leading-edge technology in automation software, a user-friendly interface, and the high level of expertise in electromagnetic and RF testing by the dedicated staff.

What's different with NEXIO software:
· Testing is our total focus and all engineers have EMC/RF backgrounds.
· BAT provides the complete and optimized test methods for all industries.
· BAT manages all equipment, including calibration data and calibration status.
· BAT provides free drivers for all brands and types of equipment, no matter how old or new.
· BAT includes EUT/DUT monitoring and control options (Equipment Under Test or Device Under Test).
· BAT-Scan is a platform for automated near-field probe scanning of PCBs and small products.
· BAT-Manager offers a collaborative software for team management, test plan organization, and test reporting.

# // Our star products

Our star product, BAT-EMC, is a world leader in automated test software. The world's top accredited labs and top Industries Leader are equipped with BAT-EMC. BAT-EMC is used in more than 20 countries worldwide (Germany, USA, China, Japan, Canada, Mexico...). Other star products are BAT-SCANNER (near field measurements), and BAT-ELEC (for burst, surge, transients, etc.).

# // Credibility

As a part of its world software success started in 1995, since 2003, NEXIO has also become the largest engineering company specialized in the field of electromagnetism in France. NEXIO wins business confidence in the electronics industry through our expertise and our highly-valued products.

Based on our experience with a number of accredited test labs and a variety of major OEMs (Original Equipment Manufacturers), we offer our expertise through our complete range of automated test solutions.

# // Our business philosophy

One thing we would like to emphasize is that by doing business with NEXIO it is an ongoing partnership.  We offer partnership, not just product.  Especially at the early stages, it is important for you to engage us as much as possible to maximize your training, and take full advantage of our offer for customization and optimization.  No other software company offers such partnership.  It is a partnership for success.

Furthermore, by listening to your requests and ideas for enhancements, it helps to improve our product.  Our products and methods are continuously evolving. This is a win-win situation for all.

# // Support maintenance

In a world of quickly evolving technologies, and where quality requirements become increasingly stringent, EMC/RF standards and test procedures are constantly evolving. Your test methods should follow these changes. Our NEXIO EMC/RF engineering team offers total support and provides new versions of our continuously evolving software.

# BAT-EMC

**// BAT-EMC** is software developed by NEXIO, since 1995, to cover the full requirements of electromagnetic compatibility (EMC).

Flexible, easy to use and completely independent of any measuring device or complete system, BAT-EMC provides an answer to the increase in productivity and quality requirements of the EMC tests. Our software is now widely used by both accredited full-compliance and pre-compliance laboratories in all major market sectors, such as automotive, aviation, aerospace & defense, and commercial electronics worldwide.

## ⊙ Advantages

· Unique interface for all tests
· Independent of any measurement equipment
· Free drivers and more than 500 supported devices
· Efficient and dedicated technical support
· Large number of supported standards (EN
  IEC, CISPR, AUTOMOTIVE, DO160, MIL-STD, ETSI, etc.)
· Interface Agilent VEE ™, MS Windows™, LabView,
  LabWindows CVI™
· Operating system: Microsoft Windows™ Vista to 10...
· Report integration with Microsoft Office™ 2003-2016
· Compatibility with next versions of MS Office™



## ⊙ Functions

Pre-scan and final-scan customization with antenna mast and turntable, totally configurable for stepped or continuous motion via user-definable algorithms.

**GTEM:**
In accordance with EN/IEC 64000-4 20 calculation method with 3-axes.
**Reverberation:**
· The three calibration types (empty, loaded, or with equipment) have two objectives: homogeneity checking and the acquisition of field strengths and values for equipment under test.
· The stirrer can be used with continuous rotation or step by step rotation. Each mode allows the user to define a parameter of operation: the number of samples for the tuning and the rotation time in seconds per turn for stirring.

## // EMC Test Modules

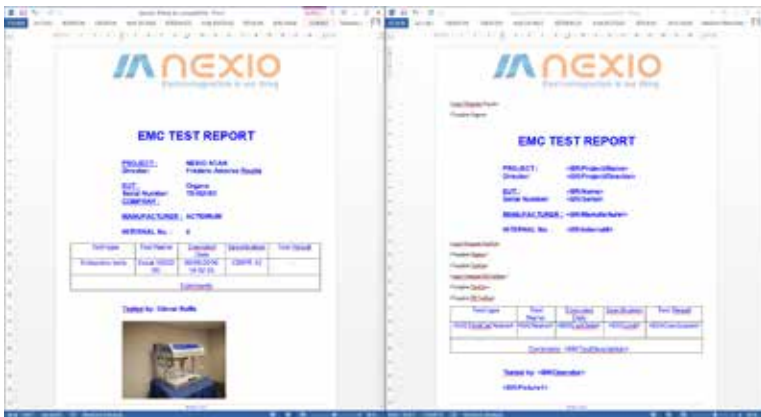| | |
|---|---|
| Radiated Emissions | Radiated Immunity |
| Conducted Emissions | Conducted Immunity |
| Reverb Emissions | Reverb Immunity |

# Test Software

## Standards

· Automotive: 2004/104/EC, ISO 11451/2 SAE, J1113 & J551, CISPR 12 & 25, Ford, BMW, Mercedes, General Motors, PSA, Renault- Nissan, Toyota, Chrysler-Fiat...
· Commercial: CISPR/EN 55011,14, 15, 22, 24, EN 61000-4-3, EN 61000-4-6, FCC Part 15, IEC 61967 & IEC 62132...
· Aerospace & Defense: MIL-STD 461/462, DO 160 (RTCA)...

## Driver Compatibility

| | | |
|---|---|---|
| · Advantest | · Holaday | · Philips |
| · Agilent/Keysight | · HP | · PMM |
| · Anritsu | · Lecroy | · Prana |
| · AR | · Marconi | · R&S |
| · Fluke | · Milmega | · Keysight |
| · Gauss Instruments | · Narda | · Tektronix |
| · Gigatronics | · Frankonia | · Schwarzbeck |
| · Ophir | · Etc. | |

## Report

The user has the ability to define a Word document template (.dot format) in order to insert BAT-EMC tags.

These tags are locations where the BAT-EMC software will insert data into the final document (.doc format), such as information fields of the different hierarchical project levels, tests results in tabular format, graphs, and so on.

Tags can be comparable with the automatic fields defined in MS Word (date, page number, filename, etc.).

BAT-EMC tags are automatic fields dedicated to the application.

## // All EMC testing in one software

Pictures and technical sheet are non-contractual

# BAT-ELEC

**//** **Supporting** our customers for the new challenges with continuously evolving standards, NEXIO has developed BAT-ELEC, the only software which is compatible with all brands of test generators and for all standards (automotive, commercial electronics, etc.).

## 7 Reasons to choose BAT-ELEC

· 1 software for all your equipment
· 1 software for all standards
· 1 software for all your electrical EMC tests
· Advanced EUT monitoring & control functions
· Automated reports
· Dedicated team of specialists at your disposal
· Verification of signals with scopes, and automatic print screen directly sent to report.

## Driver Compatibility

· On demand
  Examples: HAEFELY, EMTEST, TESEQ, EMC PARTNER, Hilo, Schlöder, etc.
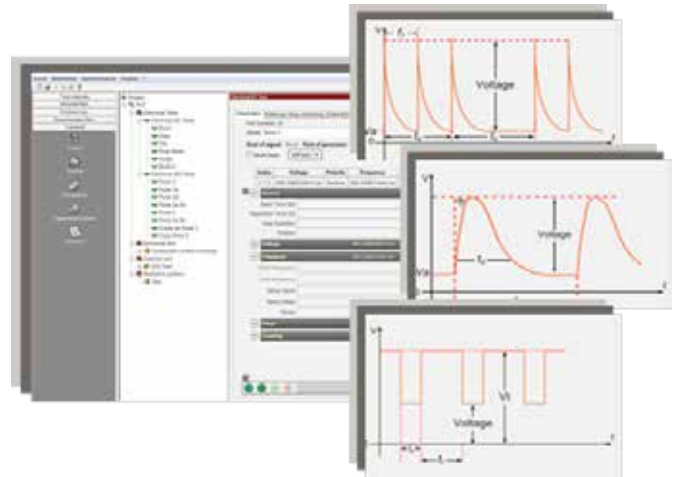
## Support

· Experienced and dedicated technical support
· Adaptation to changes in standards
· Driver development



## Standards

· Automotive: ISO 16750-2  /  ISO 7637-2
· Commercial electronics: IEC 61000-4-4 / IEC 61000-4-5 / IEC 61000-4-11 / IEC 61000-4-12

## // Integrated BAT-EMC

Project management
Automated reports
Integration of metrology
Data sharing network

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# BAT-RF

**//  BAT-RF** is our Radio Frequency (RF) test software for antenna radiation patterns. It offers a wide range of test methods to set the basis for measuring antenna performance indicators, and for testing the radiated characteristics of various wireless devices.

Whether you are designing antennas for standalone applications, or testing an integrated antenna system and a radio module, BAT-RF offers the necessary flexibility and rigor to facilitate your testing.
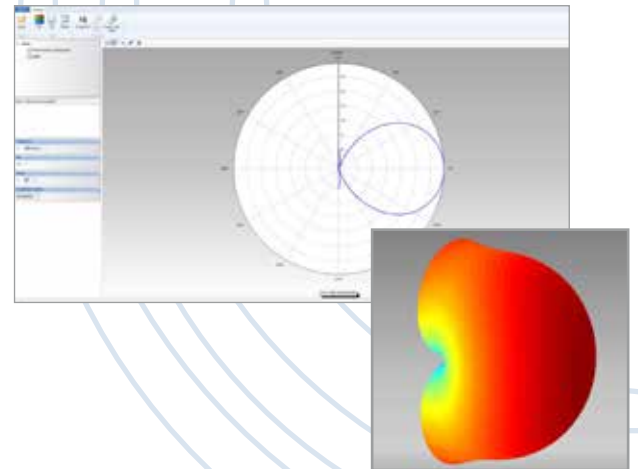
## ⦿ Functions

· Results overview in real time
· Export results
· Positioners control
· Theta - Phi variation
· Intuitive interface
· 2D and 3D visualization of the radiation pattern

## ⦿ Services

· Setup
· Guarantee
· Training

## ⦿ Features

· Driver compatibility (on demand)
· All NA (Network Analyzer) compatibility
· Free pre-processing module for the test preparation
· RF radiation patterns registration
· Fully licensed version for tests
· Emission values determination
· Free post-processing module for results viewing
· Polar diagram display

## // Compatible operating systems

Windows Vista
Windows 7
Windows 8
Windows 10...

Pictures and technical sheet are non-contractual

# BAT-CLICK

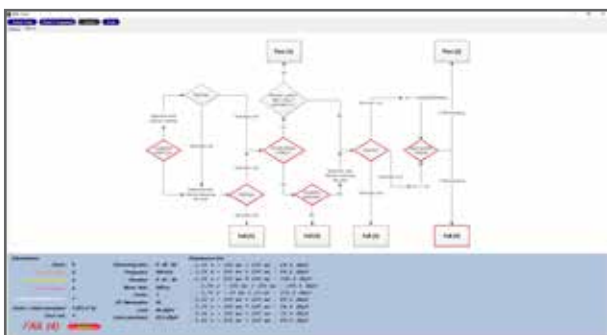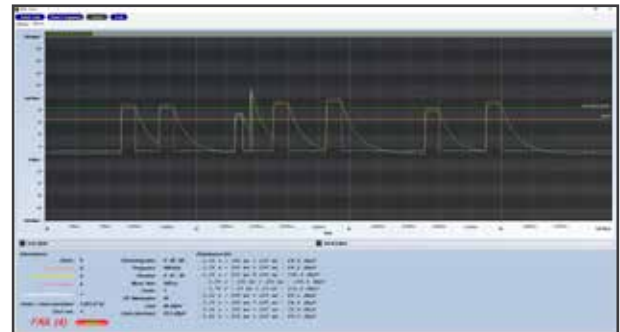**// BAT-CLICK** performs click rate analysis in accordance with CISPR 16-1 and EN 55014, in conjunction with the R&S® ESCI and R&S® ESU EMI Test Receivers. It features real-time graphic display of the Max Peak and Quasi-Peak values.

After the measurement, a test report can be displayed and printed.

## ◉ Features

- Compliant with CISPR 14-1 / EN 55014-1
- Communication with R&S® ESCI or R&S® ESU via LAN or IEC/IEEE bus interface
- Real-time graphic representation of measured values
- 500 µs time resolution for measuring Peak value and Quasi-Peak value levels
- Standard-compliant click rate analysis at 150 kHz, 500 kHz,1.4 MHz and 30 MHz, as well as analysis at user-selected frequencies





- Navigating to individual click events on graph with cursor buttons
- Marking of click events while measurement is in progress
- Recording of number of clicks and calculation of click rate
- Allowing for exceptions specified by standards
- Generation of detailed test report and printing on Windows default printer
- Electronic archiving of measurements

## ▭ // Validation algorithms can be customized

# BAT-NSA / SVSWR

**// BAT-NSA / SVSWR** is designed for anechoic chamber or open area test site (OATS) qualification and allows two different kinds of measurement:

· Normalized Site Attenuation (NSA) is measured in accordance with CISPR 16-1-4 and ANSI C63.4 in semi and fully anechoic environment. The volumetric test method is applied (test volume diameter needs to be specified) at 3 m, 10 m, or any other distance. The height scan of the receiving antenna is adjusted in the 1 m to 4 m range above the ground plane.

· The SVSWR measurement is done according to CISPR 16-1-4 in the frequency range from 1 GHz to 18 GHz using broadband omnidirectional antennas in horizontal and vertical polarization.
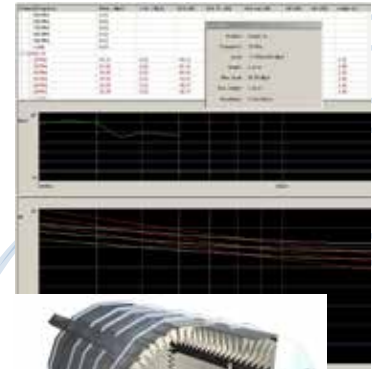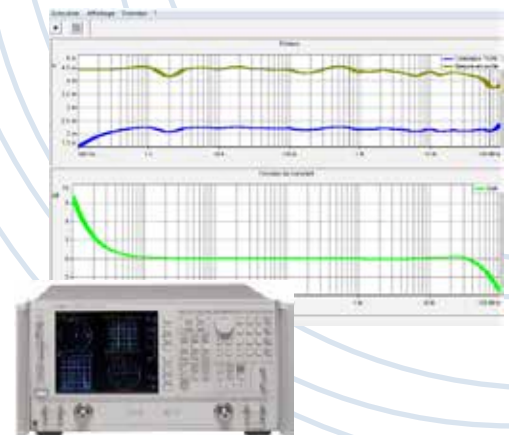


*Photo used with permission of Frankonia*

# BAT-FT

**// BAT-FT** provides different metrology (calibration) functions (measurement of a cable path loss, transfer function of probes, the impedance of an artificial network, etc.), as well as measurements of rejection rates of a DC-DC converter.

With BAT-FT you have three types of tests:
· Transfer function measurements (with network analyzer or
  signal generator and spectrum analyzer)
· Transducer measurements
· Attenuator measurements



## // Meet your metrology / calibration needs

All insertion losses can be automatically inserted in BAT-EMC

Pictures and technical sheet are non-contractual

# EASY-MONITORING

**//** **The** range of add-on modules for BAT EMC that makes your EUT monitoring much easier.
When a fault is detected, EASY-Monitoring executes actions configured by the user. Linked to BAT-EMC software, it detects EUT malfunctions through real-time signal analysis during the test.

## ⦿ Advantages

· Automated: fault detection according to user configured scenarios.
· Easy to use: completely integrated into BAT-EMC software, no need for complex driver configuration or programming.
· Flexible: works alone or synchronized to external systems through any software via Ethernet, RS232...
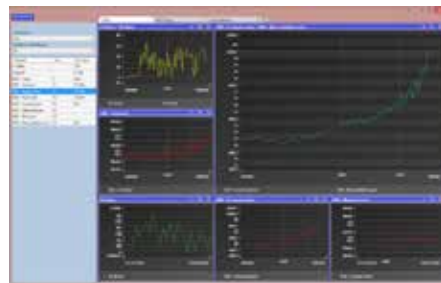· Compatible: drives most measuring devices (oscilloscope, NI acquisition card, GPIB, etc.).

### EASY Control
Simple use of standard lab devices (voltmeter, spectrum analyzer, etc.) to verify susceptibility criteria.

### EASY Scope
Acquisition, analysis and surveillance of signals sent from oscilloscopes including mask functions.

### EASY Monitoring

### EASY TTL
Module to drive an acquisition TTL card to activate outputs and check inputs.

### EASY Canoe
The link between BAT-EMC and the Vector software.

## // Product line (complete & modular)

| | |
|---|---|
| BAT-EMC | EASY-Scope |
| AT-DIAG | EASY-Monitoring |
| BAT-Image | EASY-Click |
| EASY-TTL | EASY-Canoe |

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# BAT-IMAGE

**//** **Our** EUT video acquisition & surveillance control tool. In case of faults, it executes actions set up by the user. Associated to NEXIO's EMC software, BAT-Image detects EUT malfunctions through real-time analysis.
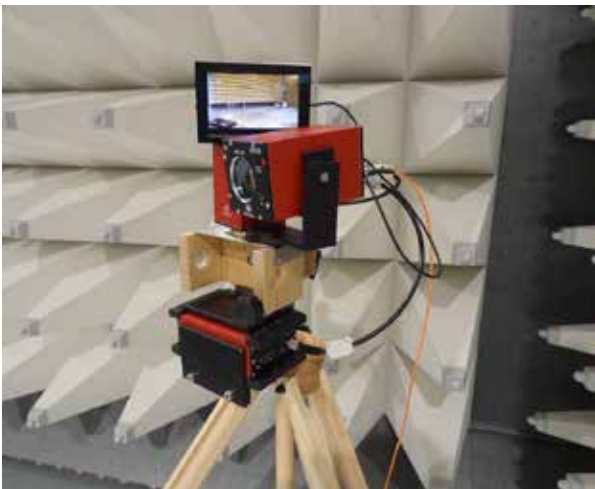
## ⊙ Advantages

The goal of BAT-Image is to compare the reference image to the real-time image.

Integrated into BAT-EMC, BAT-Image can be used as a control tool during immunity tests to detect EUT malfunctions through real-time analysis.





## ⊙ Functions

· Audio signal generation (prompt)
· Recording of the fault image
· Information transmission to EMC test system or others (frequency, level, modulation, etc.)
· Fault code (which can influence the test procedure)
· Attach message describing the fault

## // Types of faults detected

Dash board lighting or warning lights (LEDs).
Analog display needle position (speedometer, gauge, etc.).

Pictures and technical sheet are non-contractual

# Lab Management

# BAT-MANAGER

**//  With** its range BAT-EMC, BAT-ELEC, and the similar, NEXIO has been the preferred software in major EMC test laboratories in Europe, North America, and Asia, since 1995. BAT- EMC meets the complex needs of laboratories with strict quality requirements (ISO 17025, etc.), providing efficiency, flexibility, and continuous improvement.

BAT-MANAGER completes the range by offering a collaborative software for centralized data management and the management of activities of a laboratory.
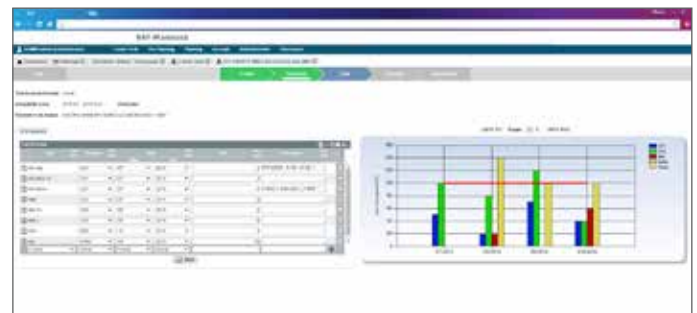
## ◉ Advantages

· Centralize information related to EMC testing
· Streamline processes (Workflow) respecting the QMS
· Share information
· Optimize the test preparation time
· Improve the traceability of information (monitoring, changes, etc.)
· Increase efficiency
· Measuring performance (indicators, statistics)

## ◉ Features

· Management of requests for tests
· Planning
· Process management
· Management of resources
· Team Management (1*8, 2*8, 3*8)
· Progress of projects
· Reporting project (metrics / indicators)

## ◉ 3 reasons for choosing BAT-MANAGER

· 100% Web-compatible tablets, ergonomic, durable and scalable.
· A customizable offer to fit your needs with a competitive price.
· An experienced team in the business of EMC testing and software development.



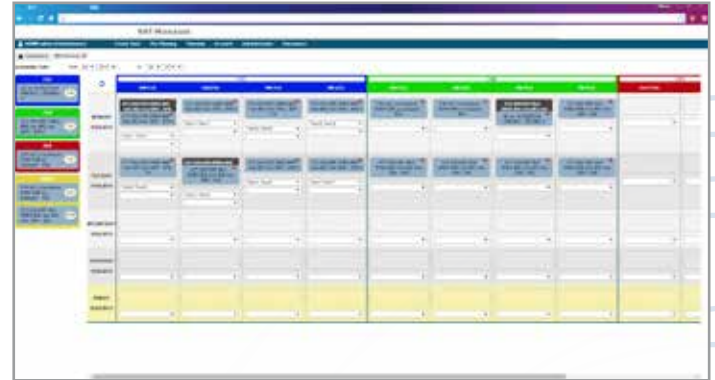## // An experienced and specialized team

NEXIO is the only software company totally specialized to the management of EMC, RF, and electrical testing.
NEXIO is a dedicated team that ensures delivery, training, support, and ongoing development worldwide.
NEXIO is guaranteed to have the best for your laboratory proven by over 20 years of continuous improvement of our solutions.

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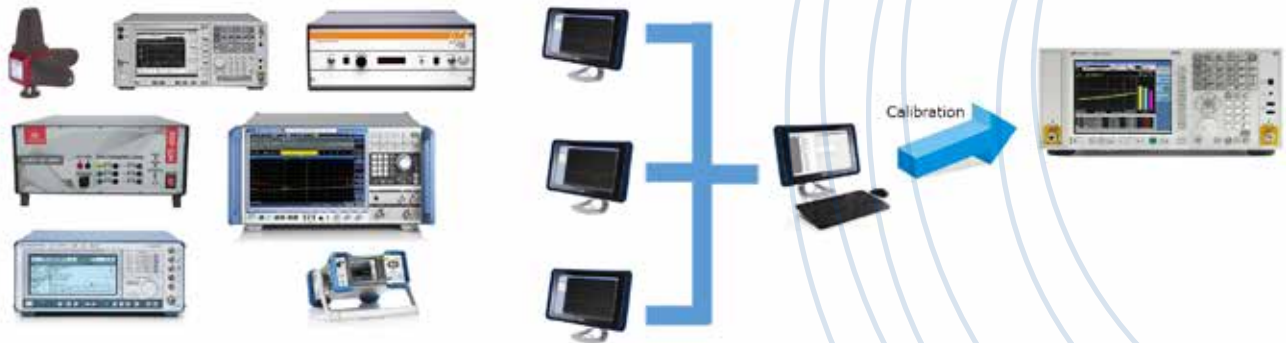
# Lab Management

## // BAT-MANAGER with BAT-EMC

· Automatic creation of BAT-EMC projects from
  BAT-Manager
· Progress tracking of the projects in BAT-Manager
  at the end of each run in BAT-EMC
· Automatic generation of test summaries
· Centralization of test results, reports, etc.



## // Metrology with BAT-EMC

With BAT-EMC software you can meet the metrology (calibration) requirements of your laboratory:
· Coordinate your maintenance action of your equipment
· Generate your metrology / calibration reports



## // Referential with BAT-EMC

The referential (network drive) is used to share and store information between different workstations so you can manage all data from all workstation computers.

You can perform several tests at different workstations and combine them into the same project. You can perform a test at a lab workstation, and then afterwards, generate your reports from your office computer.

## // Planning assistance for your laboratory

BAT-MANAGER enables you to plan your activities as you can manage your laboratory, the employees (1x8, 2x8, 3x8) but also the chambers and your test materiels.
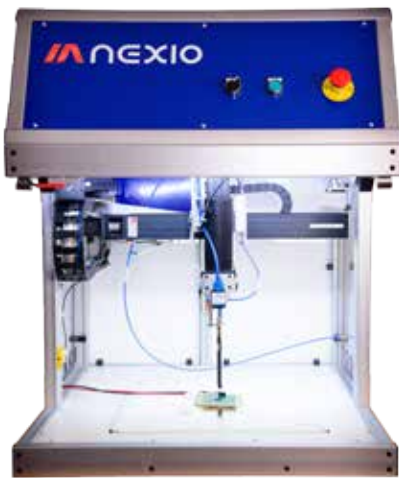
Pictures and technical sheet are non-contractual
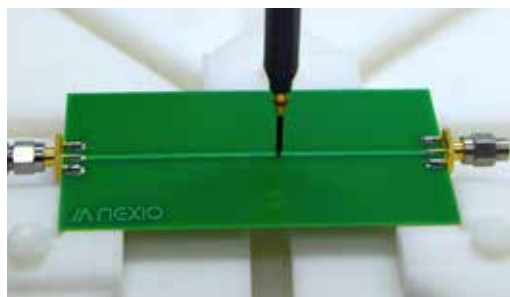
# Measuring Systems

# BAT-SCANNER

**// Our** 3-D precision scanner works with the BAT-Scan software.
Building on the methods of measurement, analysis, and innovative post-processing, NEXIO designed its 3-D near-field scanner to assist in the design of electronic circuits by measuring their EMC characteristics.
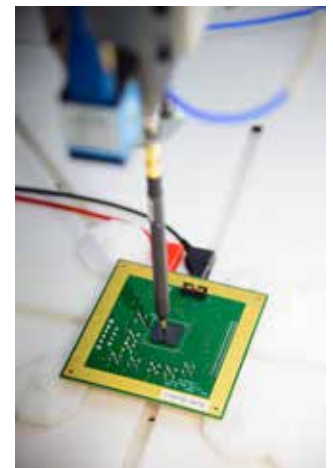
## ⦿ Specifications



· Size: 783 x 942 x 936 mm
· Measuring Volume: 400 x 400 x 200 mm
· Maximum weight: 50 kg
· Effective measurement accuracy: 0.1 mm
· Camera integrated with high resolution 4K
· Probe protection system
· Integration of the Tektronix analyzer from
  9 kHz to 6.2 GHz with a very high precision.





· Easy calibration procedure for
  corrections factors of the
  probes Stripline board
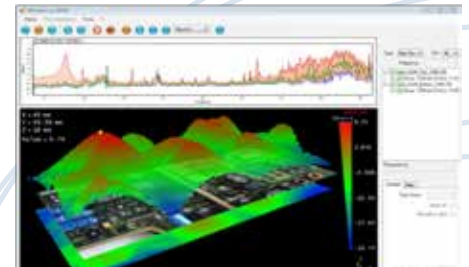· A 50 ohm termination



## // Compliance Detection

The scanner can detect if the probe touches the board.

# BAT-SCAN

**// BAT-Scan** adapts to all robotic systems. BAT-Scan is the first software compatible with numerical simulation software.

· Investigate EMC failures observed during radiated emissions testing
· Assist with sustaining compliance due to design changes or component obsolescence
· Characterize the leakage of a shield (location, quantification, etc.)
· Evaluate the impedance mismatch of the tracks on a PCB
· Optimize the placement IC/PCB or PCB/box to reduce the phenomena of self-disturbance
· Calculate the field distribution at any distance using the techniques of transformation near-field / far-field



Free download **NFS Viewer** to view & analyse the results on your desktop

## ◉ Automation with BAT-Scan

For the purpose of the project, NEXIO relied on its expertise in automation and its development structure to produce an industrial software suitable for measurements with near field scanners. BAT-Scan adapts to all scanner systems (10 drivers available since 2013) and offers a multitude of functions dedicated to best use. BAT-SCAN is the first software compatible with the standardized format IEC61967-1-1 that allows the use of results in your numerical simulation software. BAT-Scan enjoys the benefits of BAT-EMC, a leader in EMC automation software: technical support, web portal, maintenance and a library of instrument drivers (more than 500 to date, and averaging the addition of 10 drivers per year).

## ◉ Modelling and simulation

The team at NEXIO have implemented the functionality needed to automate vectorial measurements, allowing direct connection with the EMC simulation tool market. These parameters, in addition to new features of post-processing, deliver the numerical model of the EUT after testing and performs additional analysis by simulation. These models are particularly appreciated by system designers who want to know the EMC characteristics of the subsystems, as accurately and realistically as possible.

## // A real advantage

With this new range of tools, NEXIO brings complete solutions for reducing your design time, validation, and qualification of electronic equipment.

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# MAINTENANCE

**//** **In** a world of non-stop technological developments and rigorous quality requirements, EMC standards and test procedures evolve constantly. Your test methods need to follow these developments.
NEXIO's maintenance contract guarantees you regular software updates integrating new functions and improvements to help you keep in line with the most recent developments of standards. Thanks to our complete range of dedicated support services, you can be assured that each software user is only a click away from expert advice and support.

## // Software Improvements and Evolutions

· Standards: The maintenance contract guarantees that the software takes standards modification into account.
· Free drivers: BAT-EMC offers a library of over 500 instrument drivers. This library is available for free to our maintenance clients and new drivers can be requested at no extra charge.
· Annual improvements: maintenance clients can submit requests to improve existing BAT-EMC functions.
· New functions: Your ideas and suggestions for new functions are taken into account and analyzed for integration into our yearly software update. Some may even be incorporated sooner.

## // Services Support

· Benefiting from a strong EMC engineer team, NEXIO is offering its clients expert advice, development and user support. NEXIO maintenance clients benefit from optimized response time in the case of software errors.
 (In case of loss of functionality, we will take the necessary measures to restore functionality ASAP)
· Technical support / web portal
*Exclusive Access to Our Maintenance Customers*
· Technical support zone: allows you to submit and review your requests for evolution and contact the support team for user support.
· Download zone: to access new drivers, limits, report models, videos explaining user functions, new software versions and their respective documentation, etc.

*www.yournexio.com*

## // Some Figures

More than 60 improvements / new functions per year
More than 60 days of new version validation
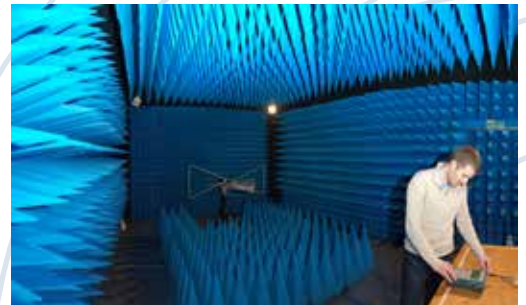More than 500 support requests per year

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## // Installation / Training

During the on-site installation, NEXIO performs a basic validation of the software system to ensure that all drivers and measurement functions perform correctly. We also provide basic start-up training to the software administrator and users. The scope of the basic validation and start-up training are given below. This is the minimum required to guarantee the correct setup of the software.

## // On site validation

The validation of the new version using automatic validation, NEXIO's facility and beta testers are major steps of our validation process, but will in no way replace the on-site validation that we advise you to perform once you have received the new versions. To assist you in the validation of any major evolution versions, NEXIO offers annual on-site validation that can be added to your maintenance plan.

## // Specific Control Tools

The control tools defined by the administrator constitute the interface between the BAT-EMC software and the instruments in charge of monitoring the EUT.
· These tools are built around the same template: a program based on libraries (Visual C++, C# VEE PRO, NI LabView or NI LabWindows) called by BAT-EMC.
· They include several functions which allow the initialization and disturbance or target step processing (and fault monitoring recording).
· Moreover, it can receive and process data such as frequencies, field levels, or power.

## // Creating reports

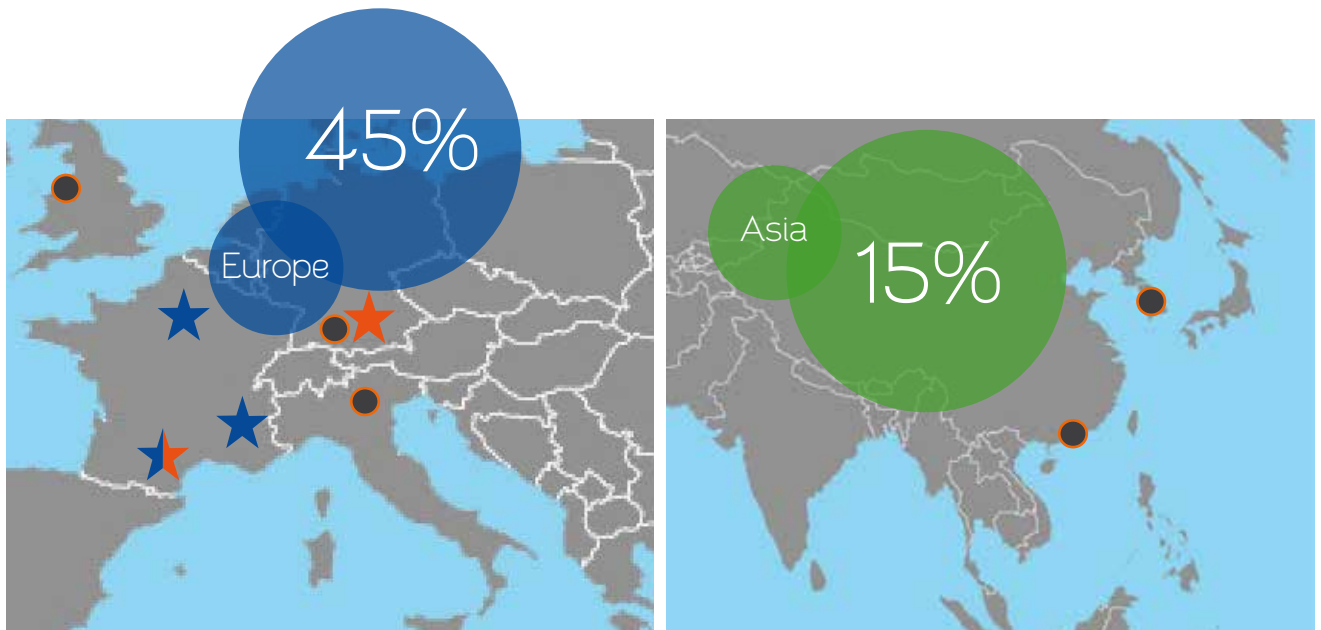Our engineers can set up your report templates for ease of automation and time-saving.

## // Lab Expertise

Our experts can help set up your laboratory for greater efficiency and optimization.

Pictures and technical sheet are non-contractual

# Our International Presence

NEXIO provides timely local support through its highly qualified technical support engineers. Together with its committed distributors and representatives, NEXIO sells and supports its products in over 20 countries.
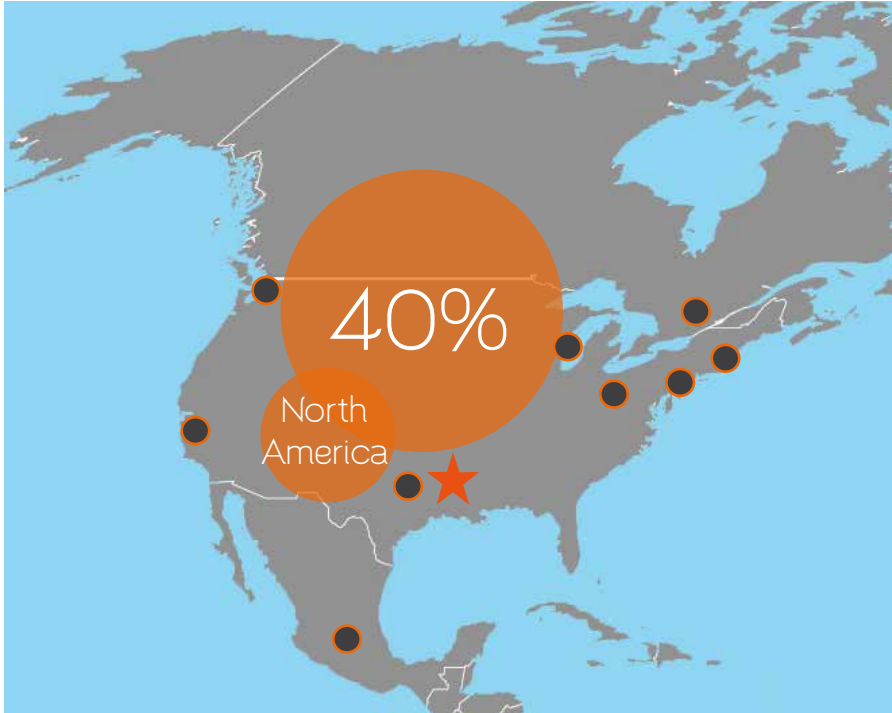
**45%**

Europe

**15%**

Asia

- Customers
- Distributors
- ⭐ NEXIO sales offices
- ⭐ NEXIO support

// Our local support

40%

North
America

// **Your local contact**

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# Electromagnetism
## is our thing

# Test and Measurement

# Products

## Emissions
## Radio Frequency
## Immunity EMC

# NEXIO