



**electrical impedance
at its best.**



The global leader for Electrical Impedance

We are Sciospec – a highly specialized technology provider from Germany. We are the global leader in Electrical Impedance Spectroscopy and Impedance Tomography.

These measurement techniques are used to measure electrical properties of anything from technical components to living organisms. Electrical properties are everywhere and they strongly correlate with functional and structural attributes and states. This makes them ideal for a broad range of applications and domains – from electronics, production testing, and material science, all the way to bioanalytics and healthcare.

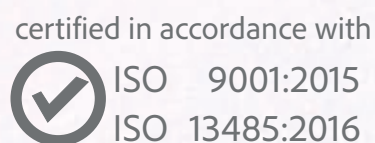
Our technology is at the forefront of what impedance measurements can do with broad ranges, high accuracy and countless application-specific adaptations like medical safety features. The most important advantage over other test and measurement providers are our multichannel capabilities.

Single channel lab bench instruments, multichannel biochip-readers, all the way to massive-multichannel equipment for automated industrial process control or high throughput pharmacological screening - scalability is our core strength.

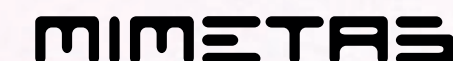
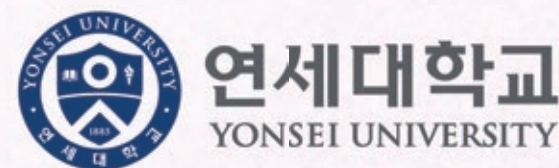
We don't just sell instruments, but also help others to build products - providing a clear and proven migration path from research lab to real life products. Sciospec technology in the form of OEM modules is at the heart of countless products of domain-leading brands worldwide. At the same time our highly customizable solutions enable turn-key research, power the next generation semiconductor manufacturing and enable new levels in scalability for automated component test applications all over the world.

Since 2010 we have partnered with the world's most prestigious research institutions, pushing the advancement of science and helping create many successful products.

It is our mission to make this technology available and bridge the gap from research to real life applications.



for more information visit
www.sciospec.com





laboratory products

laboratory instruments from our catalogue
impedance analyzers, potentiostats, LCR meters...

- easy & affordable entry to get started
- largely used by world's top researchers
- we help you adapt to your application

- our technology for your product
- perfectly matching your application needs
- we collaborate closely on product development to minimize risk & time to market

custom & OEM

application-specific solutions
developed for you, sold under your brand



What we are best at



State of the art technology and world leading expertise in impedance spectroscopy, impedance tomography, electrophysiology and electrochemical techniques - that's what Sciospec stands for. We are part of expert panels, academic societies and advisory boards. What you get is not only world class expertise to help you tackle your challenges, but also ready to use solutions with industry leading performance and functionality to build upon.

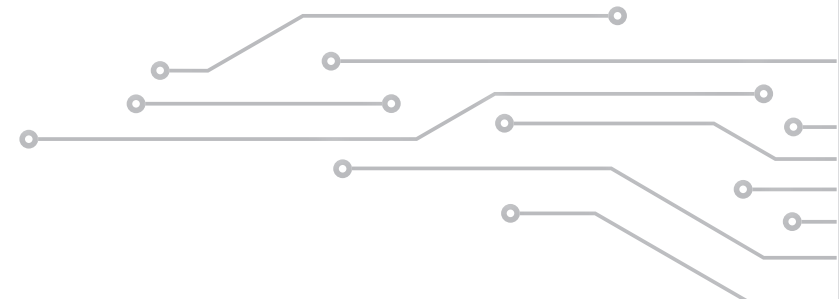
Core Technologies

- electrical impedance spectroscopy
- impedance tomography
- electrophysiology
- electrochemistry

Scalability

- from single channel to massive multichannel
- from handheld to large scale industrial equipment
- Scalability is in our DNA

Our Tech - Your Product

- standard modules for your devices
 - complete, fully custom products
 - marketed under your brand
 - OEM solutions for fast growth
- 

Application Areas

- bioanalytics & biosensing
- component testing
- medical diagnostics
- material science
- industrial process control
- ...

From Lab to Market

- flexible migration path
- easy entry & custom adaptations
- expert support & guidance
- co-development & OEM solutions

How you benefit

Innovate Faster

Partner with a proven leader in EIS and EIT technology to accelerate your R&D from the lab to the market - at lower risk and faster time to market.

Tailored to Your Needs

Whether you need off-the-shelf systems or custom OEM solutions, our technology adapts to your exact needs for a seamless transition from idea to product.

Scale with Ease

From small labs to large-scale industrial setups, our scalable solutions grow with your business.

Stay Ahead of the Curve

Gain access to cutting-edge innovations that enhance accuracy and efficiency in your operations.

Expert Support at Every Step

With our team of experts, worldwide partner network and strong ties with world leading researchers, we are your trusted partner giving advice and support when you need it.

application domains

Electrical properties are everywhere.

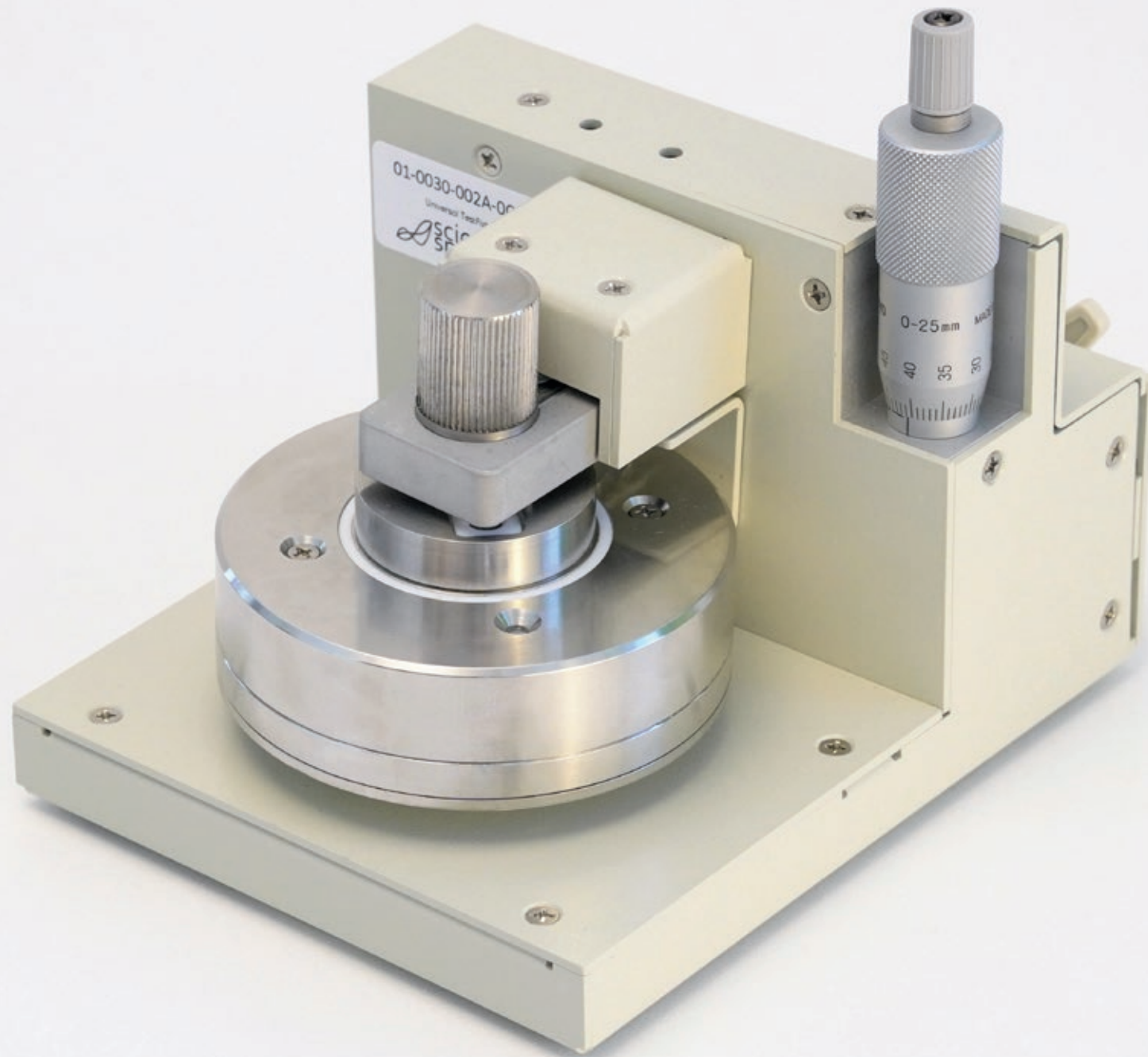
They play a crucial role in nearly every aspect of modern technology, from medical diagnostics to industrial process control, because they correlate strongly with material parameters, states and structural configuration of anything from technical components to natural structures like tissues. No matter what domain you are in, Sciospec's advanced technology makes these electrical properties accessible and helps you gain more insights into your application.



Component Testing

Electrical Components Need Rigorous Testing

to ensure they meet design specifications and perform reliably in demanding environments. This is true for simple passive components like resistors, capacitors, or inductors, for switches, connectors, semiconductors and anything else used as electrical component. Testing helps identify critical characteristics like inductance, capacitance, equivalent series resistance (ESR), but also parasitic elements inherent to all real-life components. This is highly relevant during the production of such components, either as inline process control or as end of line quality verification. Sciospec offers the right tools for all of this: from high-precision LCR meters to advanced impedance analyzers. Our solutions scale effortlessly from benchtop test to high-throughput production lines, ensuring optimal component quality and performance. Many of the leading component manufacturers in the world are already trusting our scalable test solutions and countless high end sensors, capacitors or micro-batteries pass through our test stations every minute.

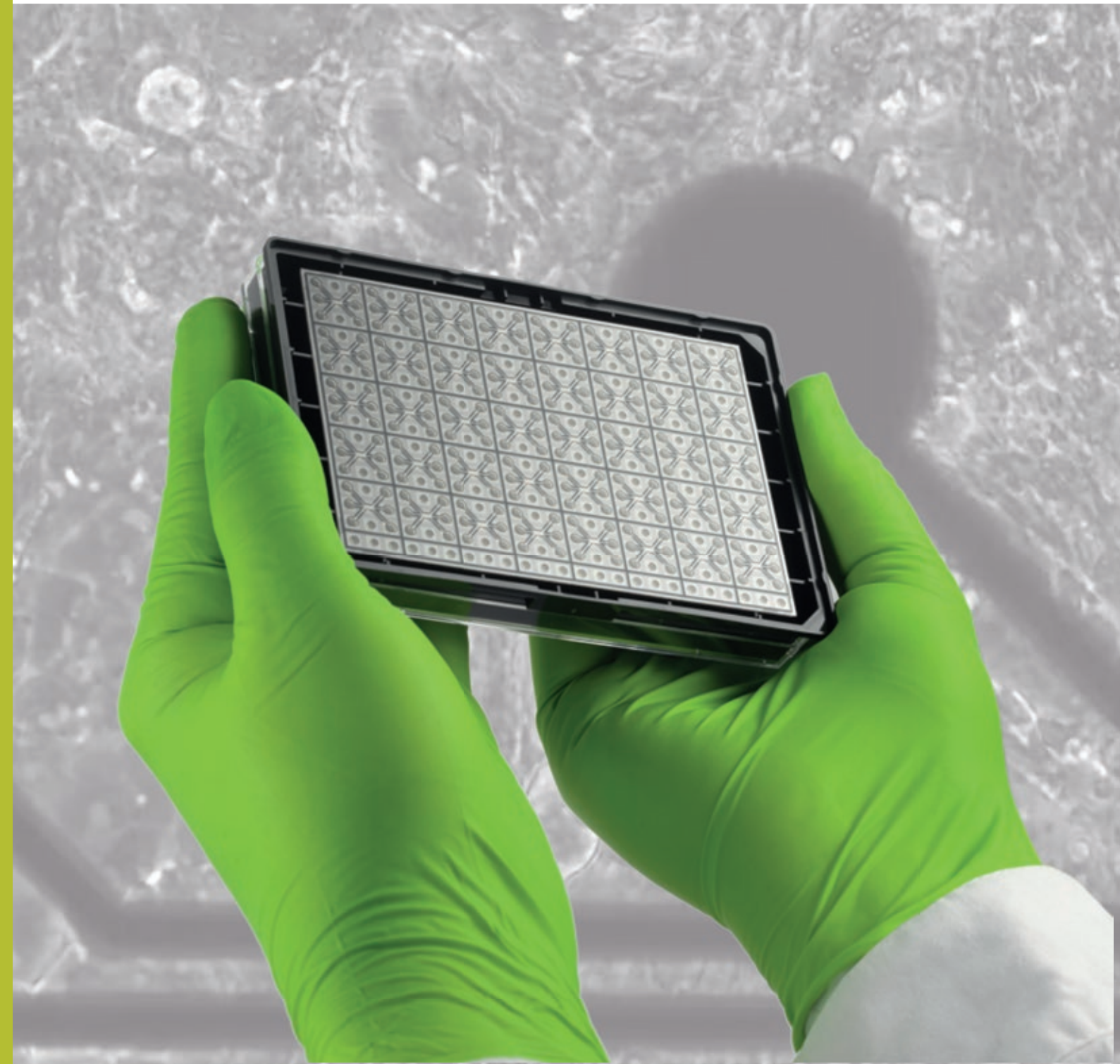


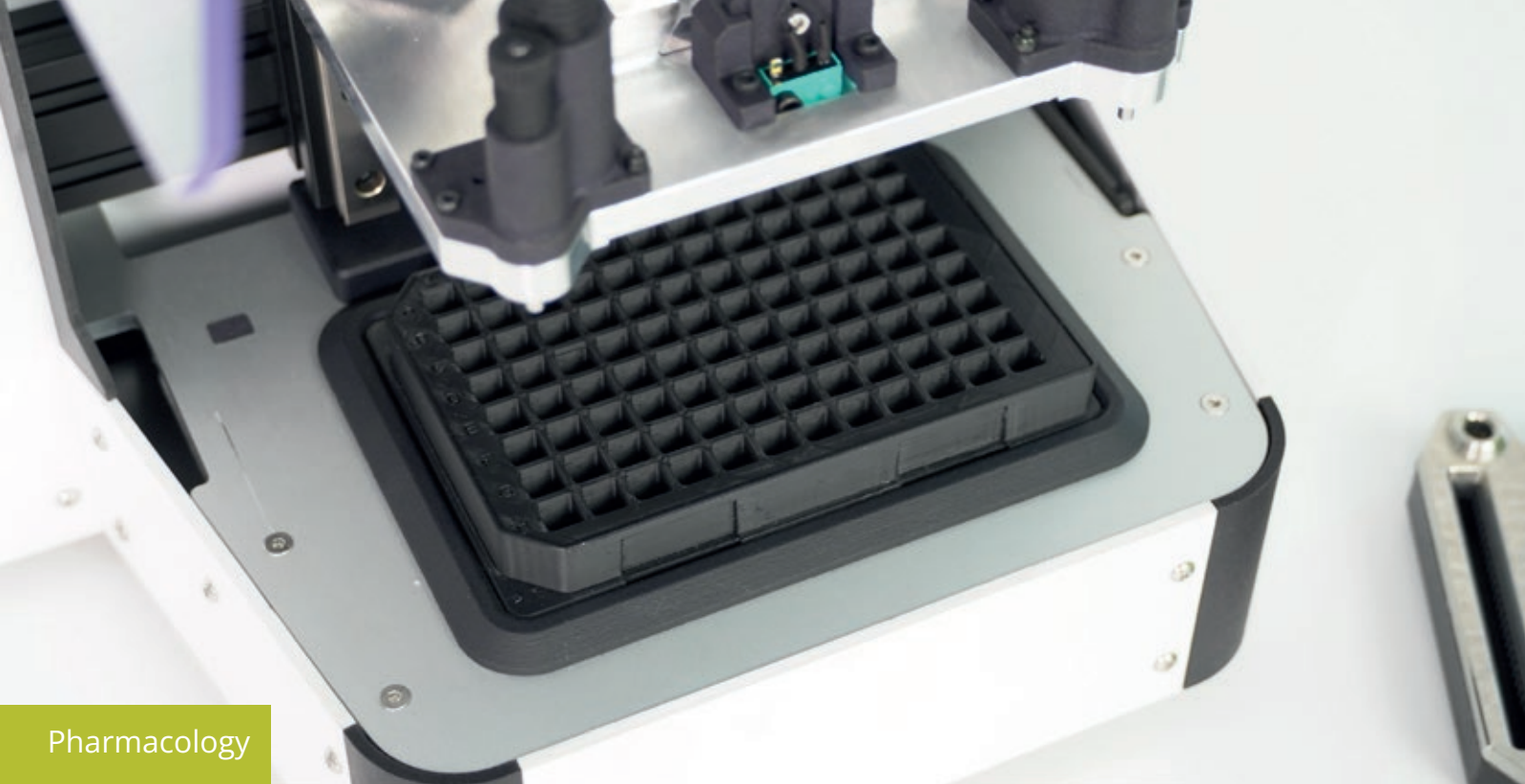
Materials Development and Testing

For the functional performance and structural quality of materials, electrical properties are of utmost importance. You work on new functional surface coatings, create composite materials for the construction of technical systems or substrates for energy storage? You have to assess raw material quality or perform end of line verification tests on products? From studying the electrical properties of novel materials to analyzing structural changes in response to environmental conditions, our systems provide precise, real-time data. Our versatile tools, including impedance analyzers and electrochemical systems, support in-depth material characterization and dynamic monitoring. With countless adapters you can easily run dielectric tests on powders, solid samples or liquids and if you need custom or production scale solutions - we have your back!

Cell-based assays, biosensors, organ-on-chip

Electroanalytical measurements play a vital role in bioanalytical applications. From TEER measurements over highly dynamic monitoring of electrophysiological processes all the way to therapy development and drug screening, our technology enables precise analysis and monitoring of in-vitro biological systems. With a broad range of products and adapters, we support industry-standard form factors for microplates, microscope slides, and fluidic chips. Our systems are trusted in cutting-edge bioanalytical applications worldwide and some of the leading cell-based measurement systems of well-known brands are our work.





Pharmacology

Drug screening, development & quality control

Sciospec provides a seamless path from drug candidate screening to therapy development & qualification all the way to production test. Our technology is used for cardiac safety testing as seen in the Nanion CardioExcyte 96, therapy development and verification on organ-on-chip systems like the Mimetas OrganoTEER[®], and many more cellular assays. Beyond that, our impedance-based tools provide critical insights for freeze-drying monitoring and tablet quality assessment. Scaling from a lab bench setup all the way to high throughput screening and massive multichannel production test - our scalability removes barriers in the entire process. From research to production, Sciospec's technology ensures reliability and accuracy in every step of pharmaceutical development.



Electrochemistry

Battery research & green chemistry

Sciospec's cutting-edge solutions support battery research, chemical process optimization, and monitoring in industrial environments. We empower the transition to green chemistry, enabling the screening of electro-active bacteria and advancing sustainable technologies. Our technology is designed to meet the demands of both laboratory research and large-scale industrial applications. Whether you need precision instruments for the lab or multi-channel systems for high-throughput processes, Sciospec offers a seamless path from research to product, ensuring reliable scalability for electrochemical innovations.

Medical & Healthcare

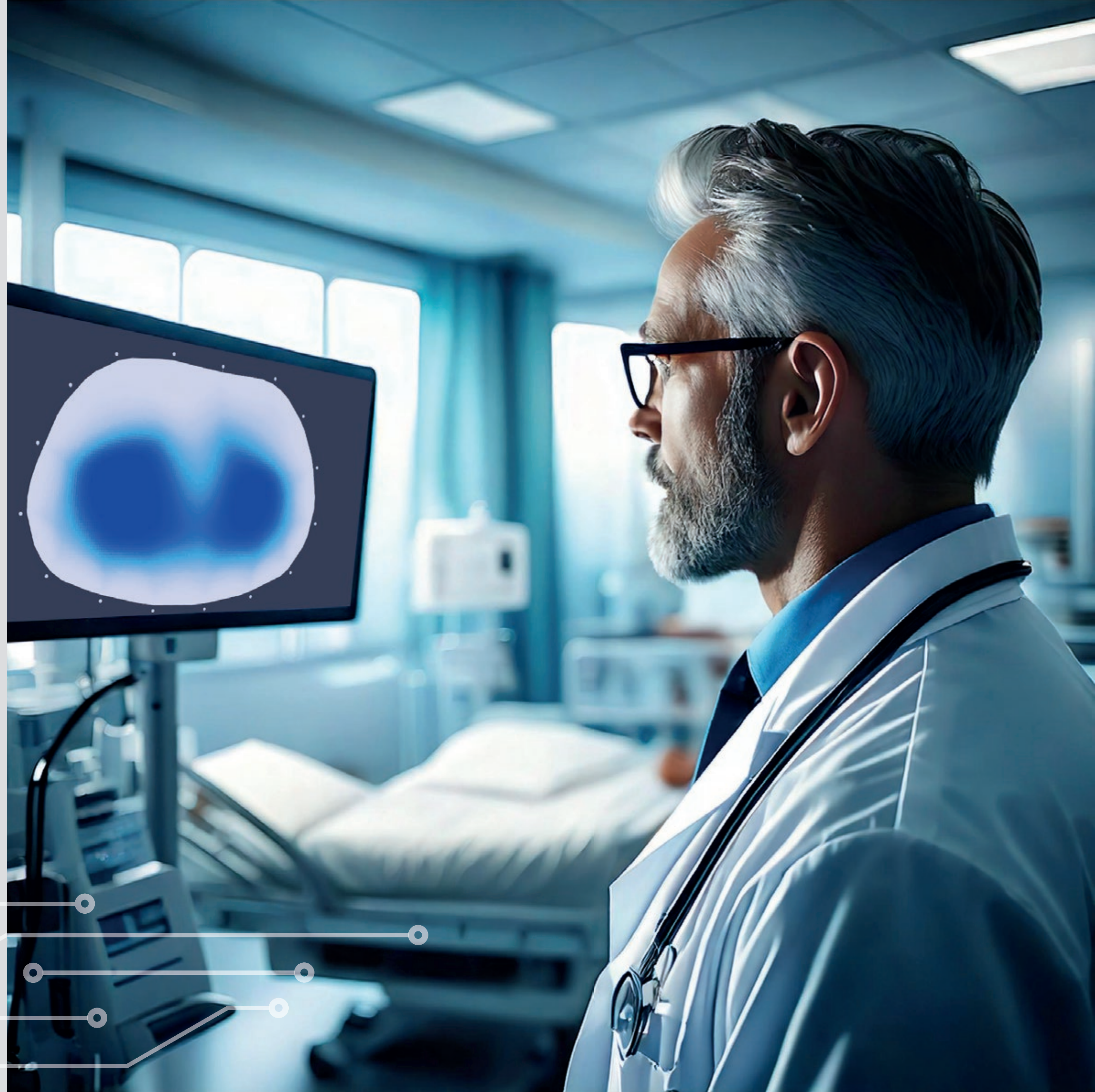
Electrical measurements give insights both to structural and functional aspects of biological systems. This makes our technology a sought-after choice for medical research. Some of the most renowned clinical research centers of the world have been using our systems for years to push the boundaries of medical diagnostics and treatment monitoring.

Typical applications include

- functional imaging of muscles, organs, ventilation
- vital parameter measurement
- tissue discrimination & tumor detection
- positioning of needles, electrodes, drills, etc.
- tissue engineering
- in-vitro diagnostics

Sciospec products are also available in a “medical research” version incorporating a multitude of additional medical grade safety features. This way, applying these devices in medical research settings becomes a lot easier, since most of the safety concerns are already taken care of.

Especially our LungEIT kit, EIT systems in general and the Medical Research ISX-3 are broadly used in clinical research, but we have also helped well-known brands incorporate impedance based technology into diagnostic devices, point-of-care solutions, or patient monitoring systems.





Laboratory instruments

- easy & affordable entry
- world leading performance
- countless options and application specific extensions

For easy entry we offer standardized instruments under our own brand. This includes

- Electrical impedance analyzers
- Electrical Impedance Tomography systems
- LCR meters
- Electrochemical Analyzers (Potentiostats/Galvanostats)
- Multiplexers and Measurement Adapters

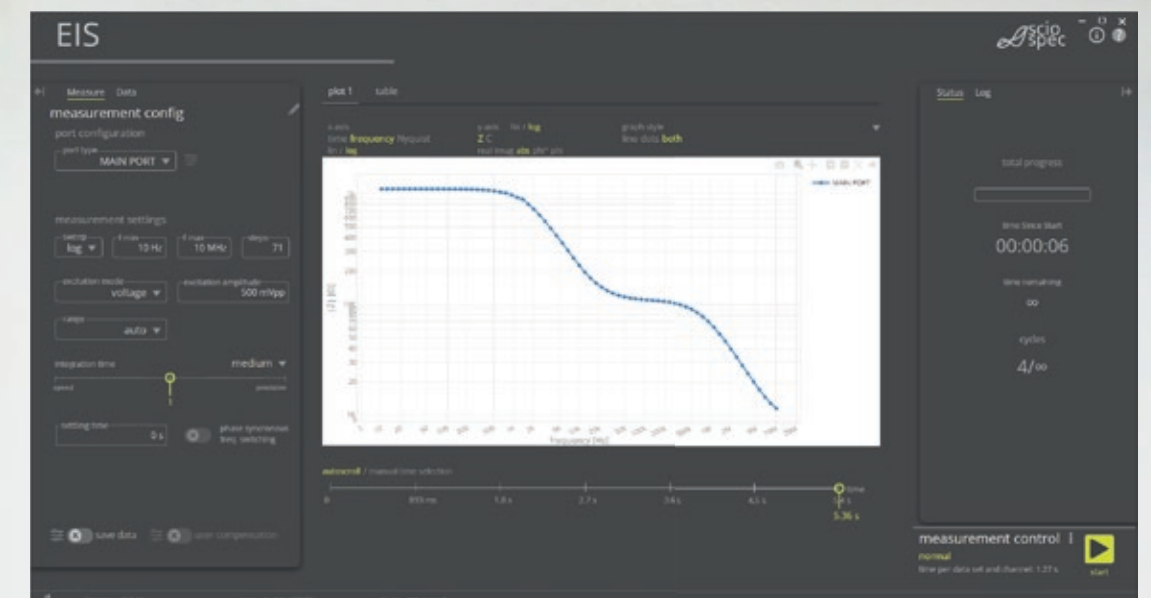
The instruments themselves bring a rich set of features as well as industry leading performance at affordable prices. To match your specific needs we offer a large range of options, extensions, adapters and apps. Scalability is at the core of our technology platform. You will find easily scalable versions of all these instrument classes and a clear migration path to massive multichannel and custom application setups. This way, you can be sure to be prepared for the next steps, wherever your research takes you.

Sciospec stands for Electrical Impedance at its Best. Electrical Impedance Spectroscopy has been our core technology ever since. In the past years we have developed a scalable and flexible technology platform that allows for precise, customizable, yet cost-effective lab-bench impedance analyzers. Choose one of our standard systems, add some powerful options and enjoy an instrument that perfectly fits for your application. Class leading performance and unrivalled flexibility - Sciospec impedance analyzers.

- class-leading measurement range (μHz ...100 MHz, mOhm...TOhm)
- unrivalled base precision of 0.01%
- fast acquisition with 0.5 ms/point
- up to 2048 frequencies per sweep
- flexible connector choices and cabling
- countless extensions and sensor adapters for connecting to your application
- scalability from single channel to 16 channels fully parallel
- additional internal and external multiplexers up to 256 ports
- custom solutions with even higher channel counts fully or semi-parallel upon request
- easy-to-use cross device compatible software with use-case specific apps
- 60601-1 compliant medical safety features
- fully customizable & available for OEM



impedance analyzers

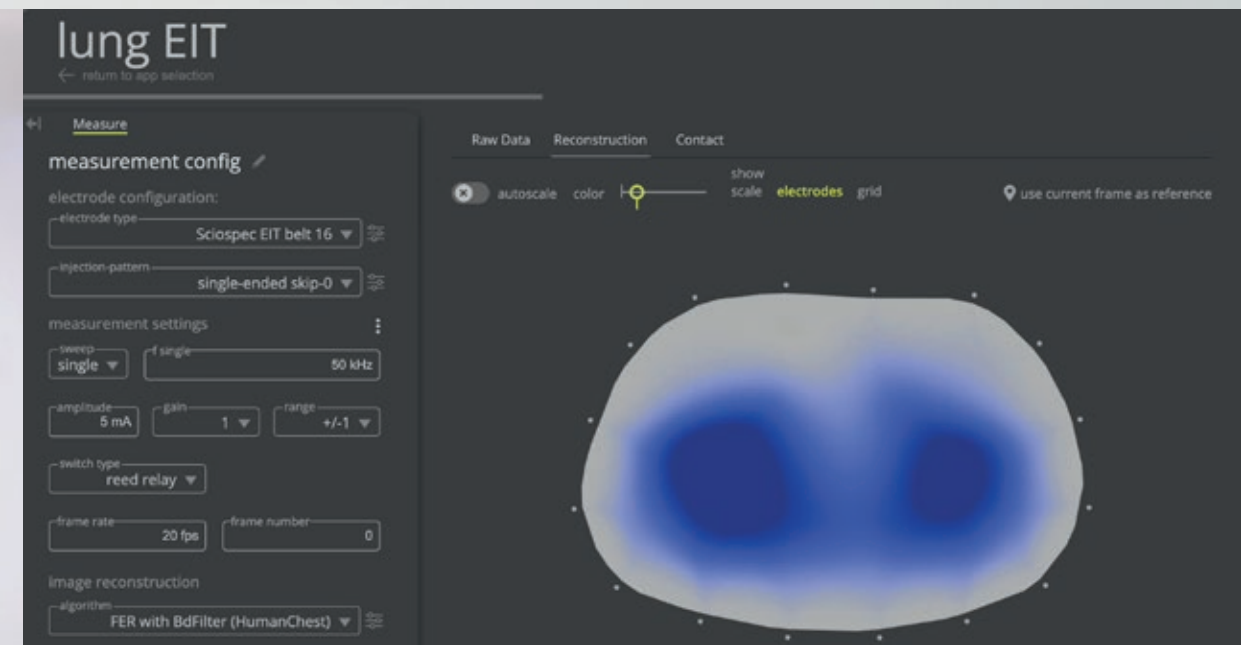


impedance tomography

Electrical Impedance Tomography (EIT) is an imaging technique that visualizes conductivity or impedance distributions both in 2D and in 3D. Sciospec is partnering with world leading scientists in the field to deliver solutions that enable using EIT both in research and in practical applications - from industrial process monitoring to medical imaging. Channel counts from 16 to 256 give you more data you ever dreamed of. True parallel measurements and tightly synchronized switching allows for fast frame rates and countless advanced options make our EIT systems the perfect fit for your next imaging challenge. For fast tracking your entry into EIT we offer standardized solutions for the most common EIT use cases - different EIT tanks, electrodes and belts - we even have a dedicated lungEIT kit for getting ventilation monitoring up and running in no time.

Our easy-to-use software provides EIT image reconstruction functionalities for time- and frequency-difference imaging. Alternatively you can just use the MATLAB code and import your data to EIDORS or write your own image reconstruction and import that to our software.

- 16 to 256 channels
- truly simultaneous sampling of all channels
- completely free configuration of injection patterns
- broad frequency range (e.g. 100 Hz ... 1 MHz)
- spectral measurements with frequency sweeps with up to 128 frequencies
- current excitation from 100 nA ... 10 mA
- frame rates up to 100 fps
- software with ready to go imaging algorithms
- advanced features like ECG synchronization, synchronous complex stimulation, etc.
- fully compatible with EIDORS
- 60601-1 compliant medical safety features
- fully customizable & available for OEM



electrochemical systems

potentiostats/galvanostats

Our electrochemical frontends include everything you need:

- precise potential and current control
- broad bandwidth and measurement ranges
- large selection of supported techniques including complex impedance
- versatile interfaces and extensions

At Sciospec, channel count is not a limitation!

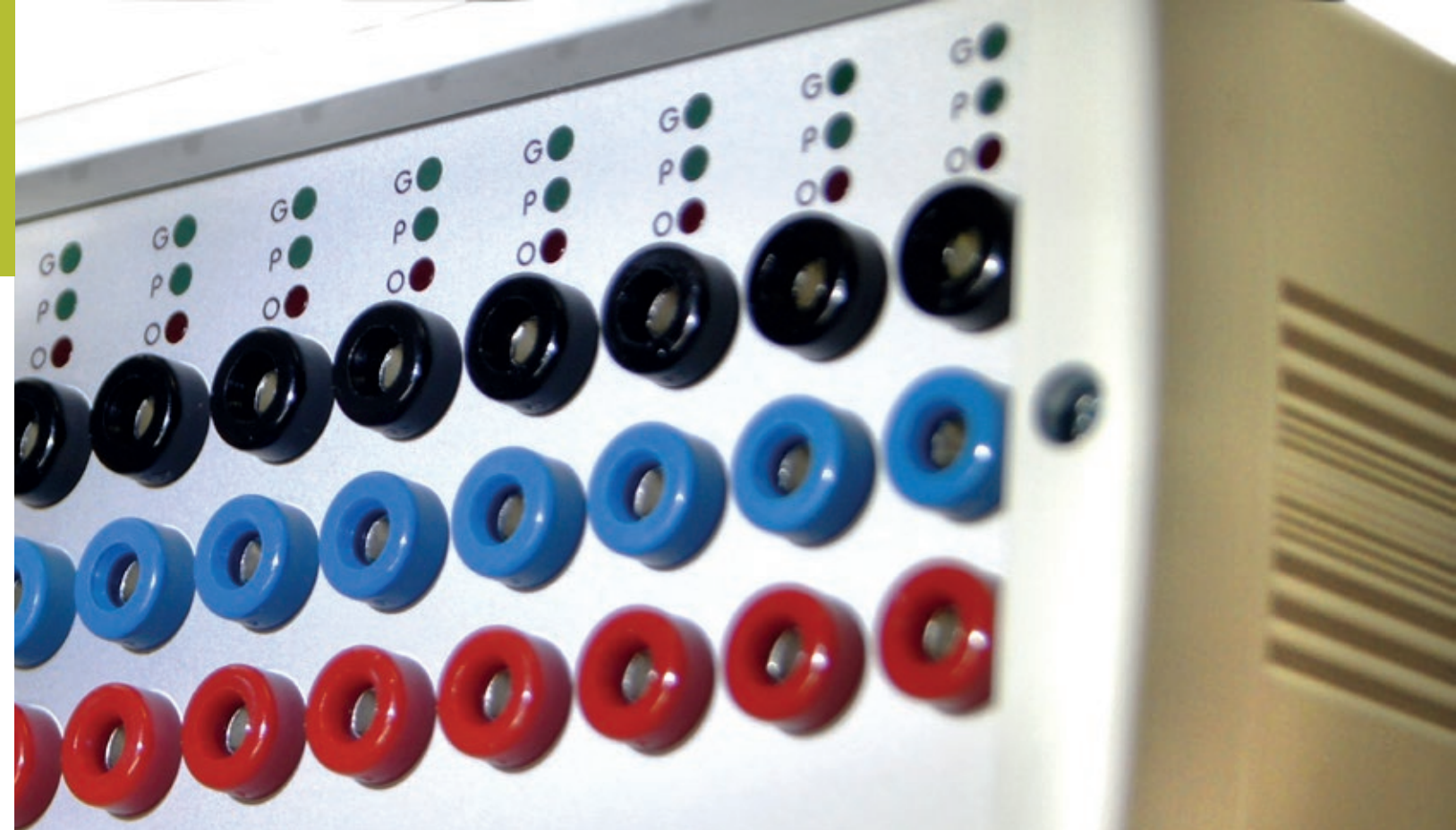
- single channel to several thousand channels
- from tiny handheld sensor units all the way up to large scale industrial test equipment
- multi-potentiostats, poly-potentiostats, multiplexed potentiostats
- up to 2048 channels from within one unit

Typical scenarios that demand more than one channel:

- automating sequential multi-sensor probing
- the need of scaling up experiments to more throughput via parallel experiments (e.g. compound screening)
- complex multi-electrode arrangements
- simultaneous comparison test targets to reference sensors

We can easily adapt to any of these, because our platform supports multi-potentiostats, poly-potentiostats, multiplexed potentiostats and anything in between.

Applications-specific OEM solutions are what we do best. We have built single-channel potentiostats for industrial process control, 512- channel test units for micro battery testing and many small scale electrochemical biosensor systems. With the Sciospec typical clear migration path you can take your application from idea to real-life product and industrial scale in no time!





The Sciospec CSX-64 is the all-in-one solution for multichannel experiments. With its highly integrated slide connector interface it's the perfect fit for biosensor applications. Or just add a cable adapter to be even more flexible. The CSX-64 comes with 8 banks with eight parallel measuring channels. This enables fast EIS measurements and electrochemical techniques in one compact system.

- 8 banks with independent ranging, control and parallel acquisition
- includes complex EIS and all common electrochemical techniques (CV, DPV, CA, ...)
- bandwidth up to 1 MHz
- Multiplexing stage for 8 ports on each bank
- any port can be any of the functions in a 2, 3 or 4 electrode configuration
- highly integrated SC-98 connector interface:
 - direct connect of sensor cards, cable options and extension adapters
 - ideally suited for multichannel biosensor applications
 - easily adaptable to your application through cable adapters or chip carriers
- easy in-field swapping of connector and adapters - get options from us or design your own.

The CSX-64 packs all the power you need for electroanalytical measurements and gives you full flexibility for experimenting with sensor topologies and complex setups - the perfect entry into any multichannel sensor application!

CSX-64 COMPACT. ULTRA-FLEXIBLE. MULTICHANNEL.
64-port impedance measurement system with 8 simultaneously acquired channels and all the techniques and flexibility you need.

LCR meters

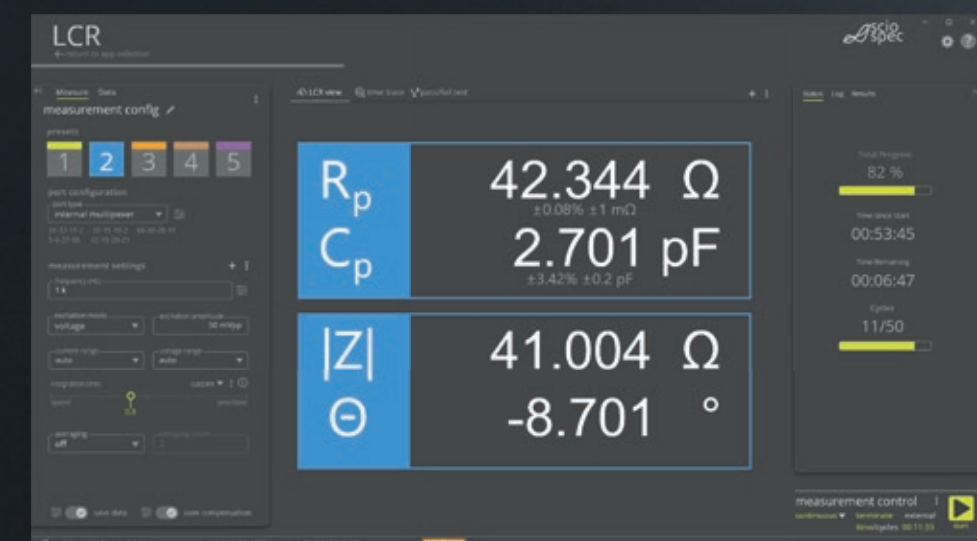
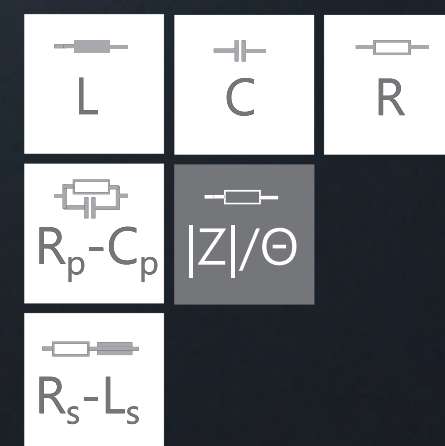


Unlock the power of component analysis - simple and intuitively.

Electrical component analysis has never been easier. Based on the same technology as our industry leading impedance analyzers the LCR-1 combines next-level performance with the simplicity of an LCR meter. In terms of range, accuracy and speed the LCR-1 sees eye to eye with competing high-end devices while maintaining a compact form factor, simple setup and ease of use previously unseen in this class.

- broad ranges (μHz ...100 MHz, mOhm...TOhm)
- base precision of 0.01%
- fast acquisition with 0.5 ms/point
- Up to 256 channels multiplexed
- intuitive LCR centric software app with everything you need
- component and sample adapters available

Need more power? The LCR app is also available within our ISX-3 impedance analyzers



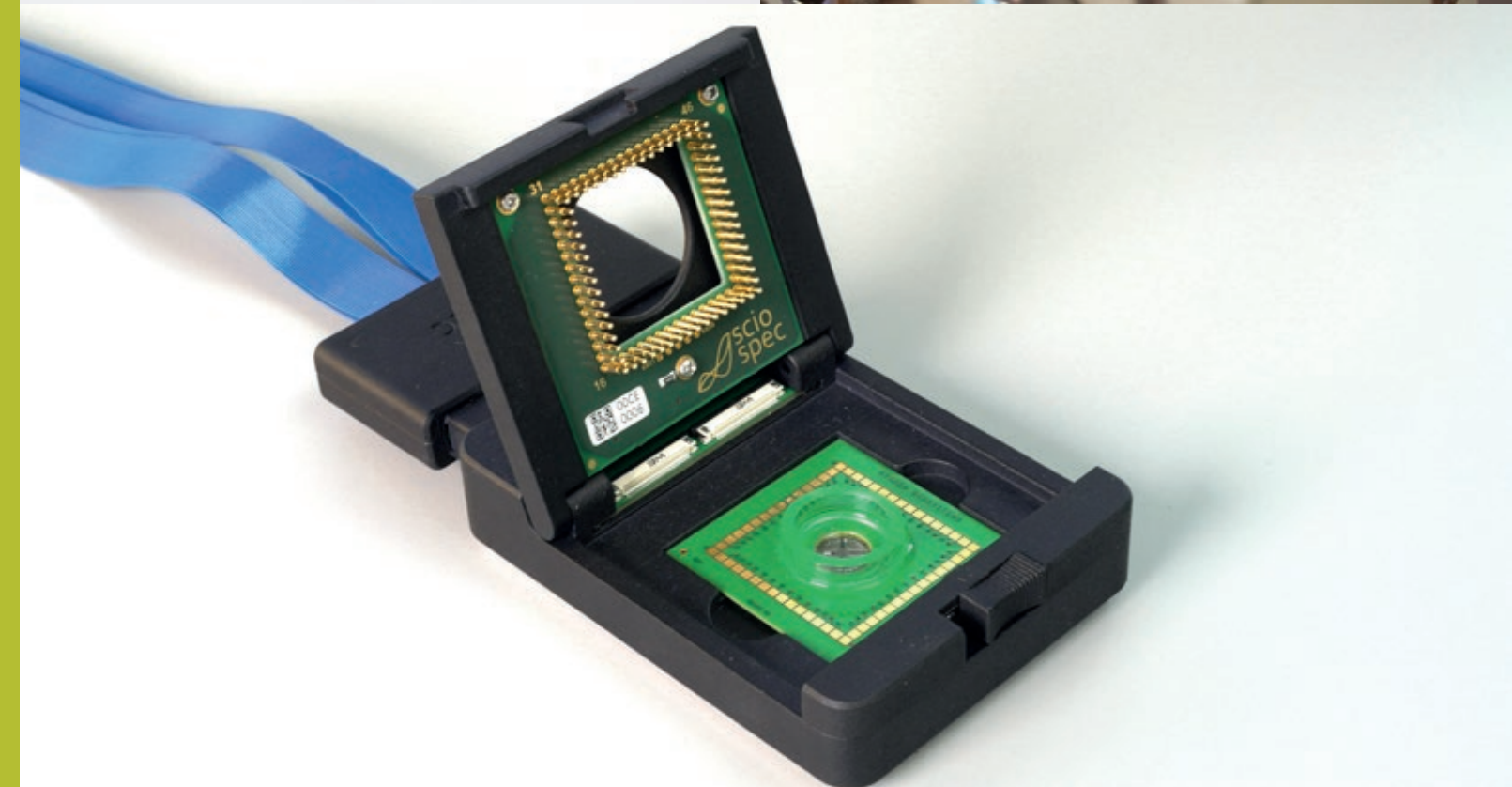
multiplexers

Functional multiplexing with endless possibilities

Ranging from 32 to 256 and channels our multiplexers are the perfect choice for impedance measurements in any sequential multichannel setup. With constraint free any-to-any port assignments you can configure any 2, 3 or 4 port combination you need. The innovative SC98 connection standard gives you full flexibility for connecting to your application.

Scaling up channel count has never been easier. Just connect the multiplexer externally to any of our instruments with an ExtensionPort or have it fully integrated with the instrument. For applications that require multiple ports, electrodes, sensors, etc. but don't need parallel readout our multiplexers are the perfect fit.

- 32 - 256 channel multiplexers with true any-to-any functional multiplexing
- constraint free port assignments for any multichannel setup you can imagine
- perfect for high accuracy, high bandwidth electrical impedance measurements in 2, 3 and 4 electrode configurations
- external units connecting to any of our instruments with an extension port
- also available as integrated option for the ISX-3 and ISX-5 impedance analyzers
- flexible choices of connectors for measurement ports through our SC98 connector standards including a range of adapter cards, sensor carriers and coaxial break out cables



adapters

- chip adapters for most impedance sensors and assay form factors
- general purpose test fixtures for components, liquids, solids, ...

The EpiX platform

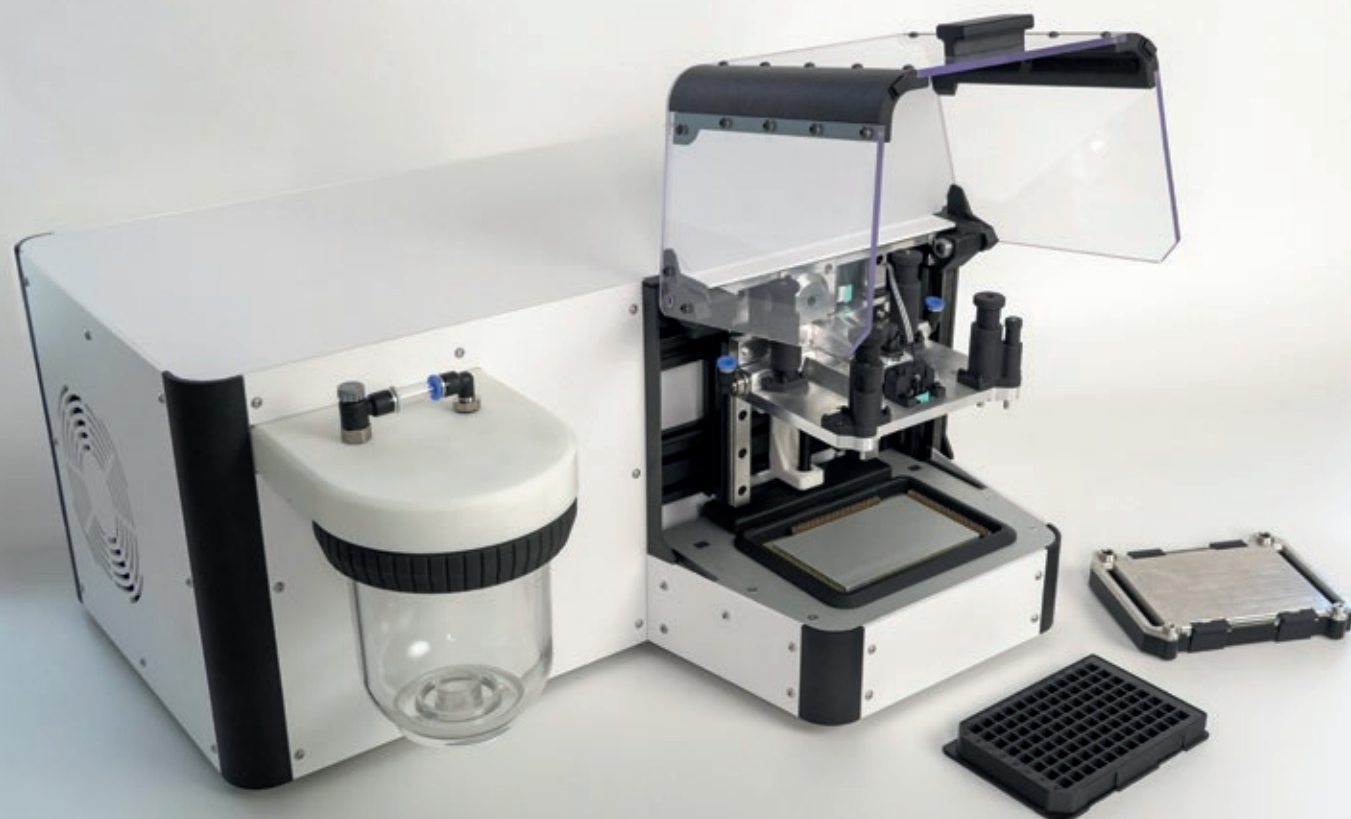
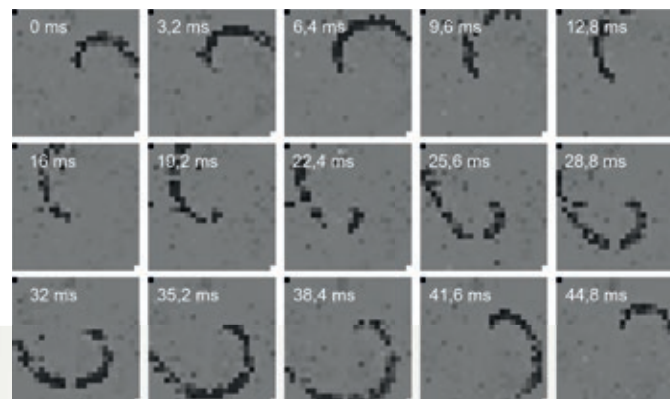
This is our fully integrated EpiX platform for cell-based assays. It delivers electrophysiological & electrochemical techniques in a highly integrated, modular multichannel system

- fully simultaneous/parallel data acquisition on up to 512 channels
- complex electrical impedance spectroscopy (EIS)
- electrophysiological (cell) potential measurements
- electrochemical techniques & complex electrical stimulation
- electrical impedance tomography (EIT)
- ready for all common form factors of assays & sensors
- stand-alone operation with environmental control

A great example of what we are going to do with this is CardioEpiX - the next generation of cardiomyocyte assays. It delivers game-changing insights into cardiac cell behavior

- surpass conventional cardiac safety by adding sensitivity and specificity
- spatially, temporal distributed dynamic parameters
- characterize cardiac re-entry phenomena
- metrics correlated with atrial fibrillation & arrhythmic dysfunctions
- open up the door for disease- and patient-specific diagnostics, drug development & testing

CardioEpiX



hydroscan

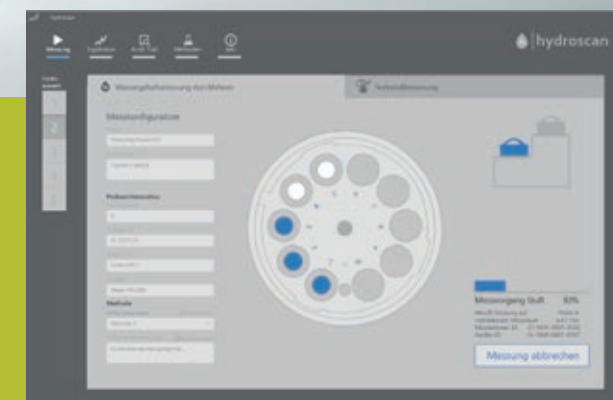
fast. accurate. scalable.
the new way to measure water content



Water content measurement in pharmaceutical products is critical, but established techniques are costly, very slow and don't scale well. Hydroscan is changing this. As accurate as DVS, at a fraction of the cost and time!

- only 2-10 minutes measurement time
- 0.05 % accuracy
- small footprint bench top system
- automated acquisition of up to 10 samples per batch
- measure different sizes & shapes of tablets, capsules, powders, etc.
- simple & intuitive handling
- options to scale for throughput from formulation to production

We are partnering with Boehringer Ingelheim for establishing Hydroscan as the new standard in pharmaceutical water content analysis. Bridging the divide between R&D and production for faster development cycles and never before seen quality assurance.



Our technology your product

You are developing a game changing sensor and want to build a product around it? Your impedance-based application could use a boost in speed and throughput? You are looking for a solution for your EIT application? You need an application-specific potentiostat for use in a production environment?

We don't just sell instruments. We help you to develop your own products - anything from customized modules to be integrated in your own systems to fully custom developed products to be sold under your brand. We have years of expertise, the right team with all the capabilities and a strong track record. Our technology already powers some of the best impedance based products by well known brands around the world.

Benefit from low-risk and low-cost development. Save time-to-market and your development budget. Let us help you bring your ideas and products to life!

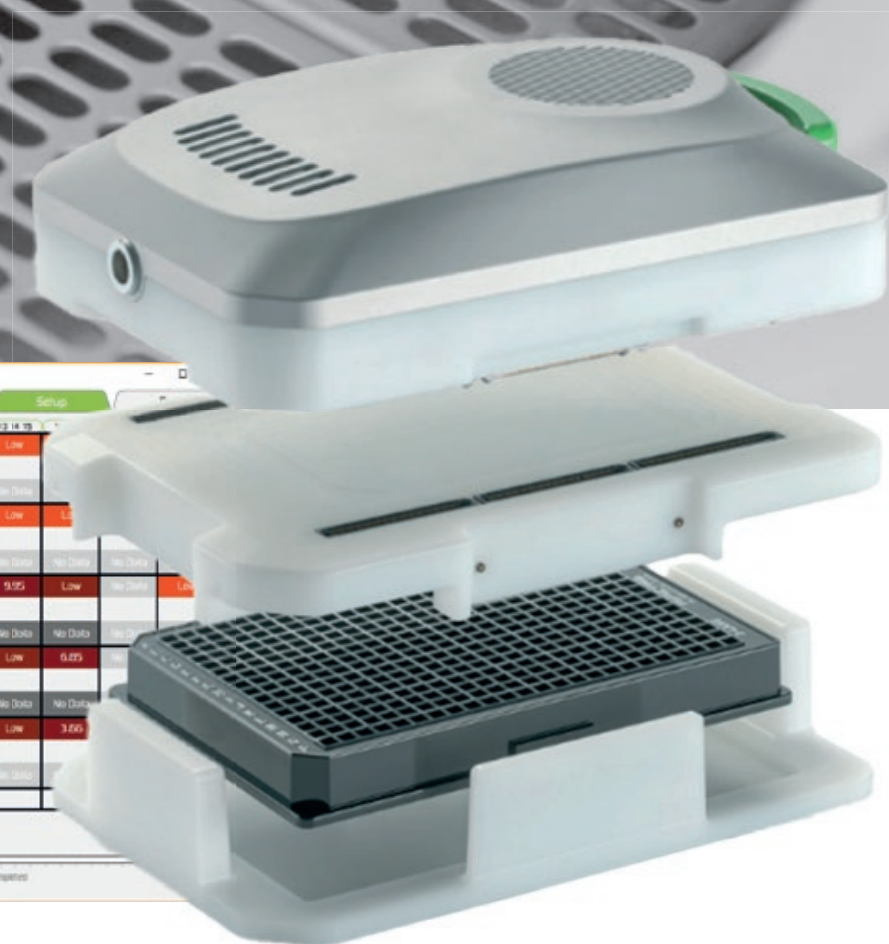


MIMETAS

Grow. Learn. Discover.

The term **Organ-on-chip** refers to miniaturized human organ models – a game changer in pharmacological research and therapy development and a huge step towards cures for many diseases. Our technology gives deep insights into these systems and greatly enhances ease of use and scalability. For this we work with specialists like **Mimetas**. When we met them, they had already established their OrganoPlates® at most of the big brands in the pharma industry. They had however, hit a serious growth blocker. Customers were

required to use large and costly microplate-readers for getting analytical results out of the plates. To resolve this, together we built the **OrganoTEER®** system. Where before you needed a large machine, you now can fit several devices onto one incubator shelf, readouts take only a few seconds for the entire plate and the modern software simplifies data acquisition and evaluation greatly. This was a real game changer! Mimetas' customers now can generate all the insights they were craving and Mimetas has successfully scaled up their operations.





Let us take care
of measurement
technology so
that you can
focus on your
application...

No matter at what development stage -
we have your back!

IDEA

You have an idea and need a sparring partner to evaluate and conceptualize it. Our extensive experience with countless developments and market leading technological know how will help you figure out where to move next.

PROOF OF CONCEPT

You already have a concept of what you want to do. Now you need to prove that it can work. Our platform offers countless options for easy entry. With years of hands on experience our scientists and engineers will gladly help you design, setup and perform experiments and make sense of the results.

PROTOTYPE

The technology looks promising. Now you need a prototype to demonstrate feasibility and move on to lab scale testing and then intended environment. Move fast without compromising quality and losing focus - with our help, fast iterations, seamless migration and scalability from lab bench to full scale prototype will get you there at a fraction of time, cost and technical risk.

SHOWCASE

You already have things working nicely in the lab and want to impress investors, potential customers, ... We will help you design and build stunning demonstrations for investor pitches, conferences, trade shows, etc.

TRANSFER

You are ready to move to turning it into a commercial product. It's time to move quickly, but there are still a lot of things to take care of. Our in house capabilities cover the whole process and are extended through strong partnerships ensuring your product transfer to become a success.

PRODUCTION

Finally: Time to sell the product. What about manufacturing, quality assurance, life-cycle maintenance services and continuous improvement. Our help can give you piece of mind and the ability to focus on marketing, sales and business development. At the same time you cut capital costs and protect yourself against fluctuations in operational costs. We have your back!

Whether you need a lab instrument or
help on a fully custom process or product
development... **just reach out to us!**



for more information visit
www.sciospec.com

Sciospec Scientific Instruments GmbH | 04828 Bennewitz | Germany
info@sciospec.de | +49 34258839900